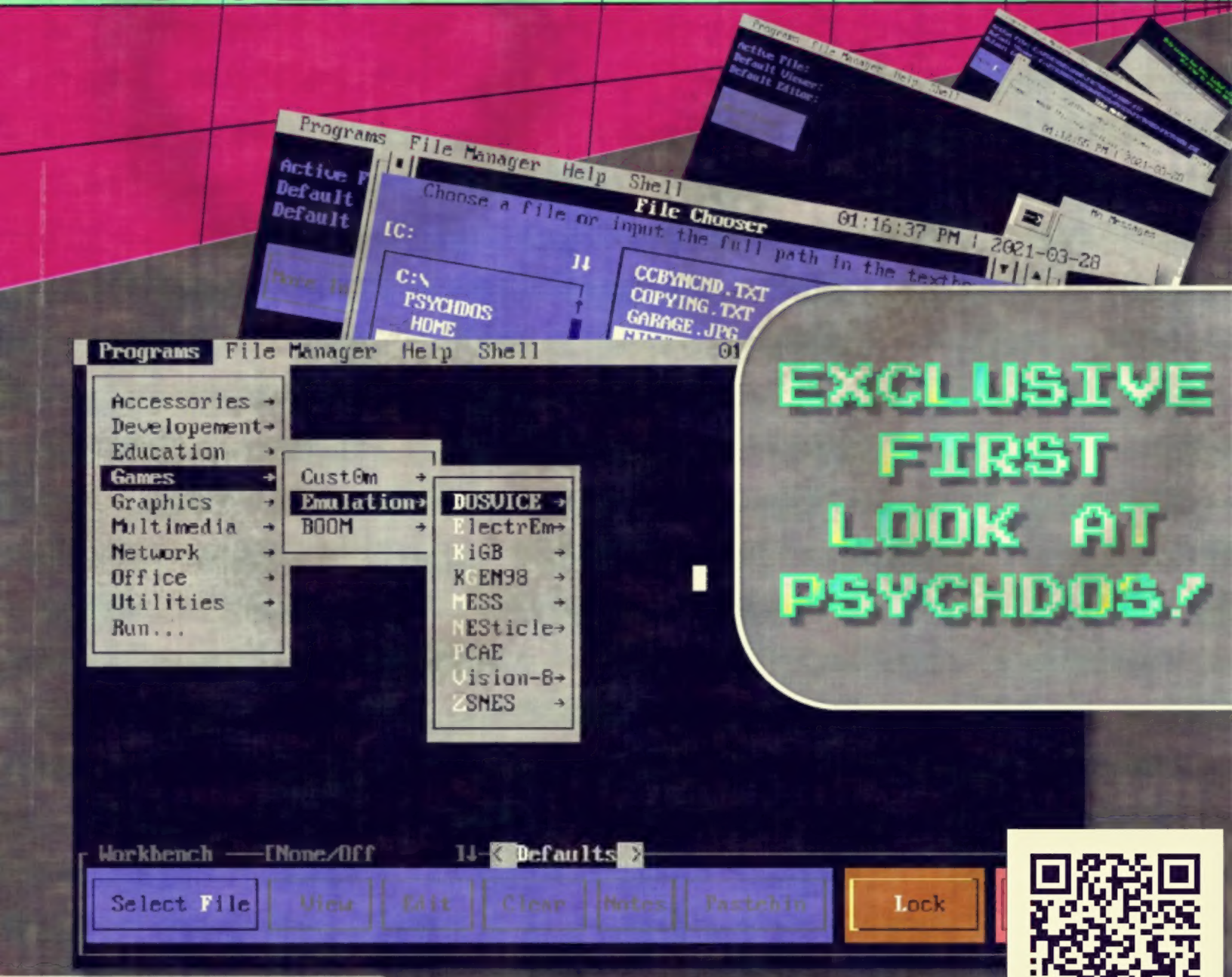
PREMIER ISSUE

#01

Everything is on

Page 3.5™

by TheOuterLinux
https://theouterlinux.gitlab.io



EXCLUSIVE FIRST LOOK AT PSYCHDOS!

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THEOUTERLINUX PRESENTS

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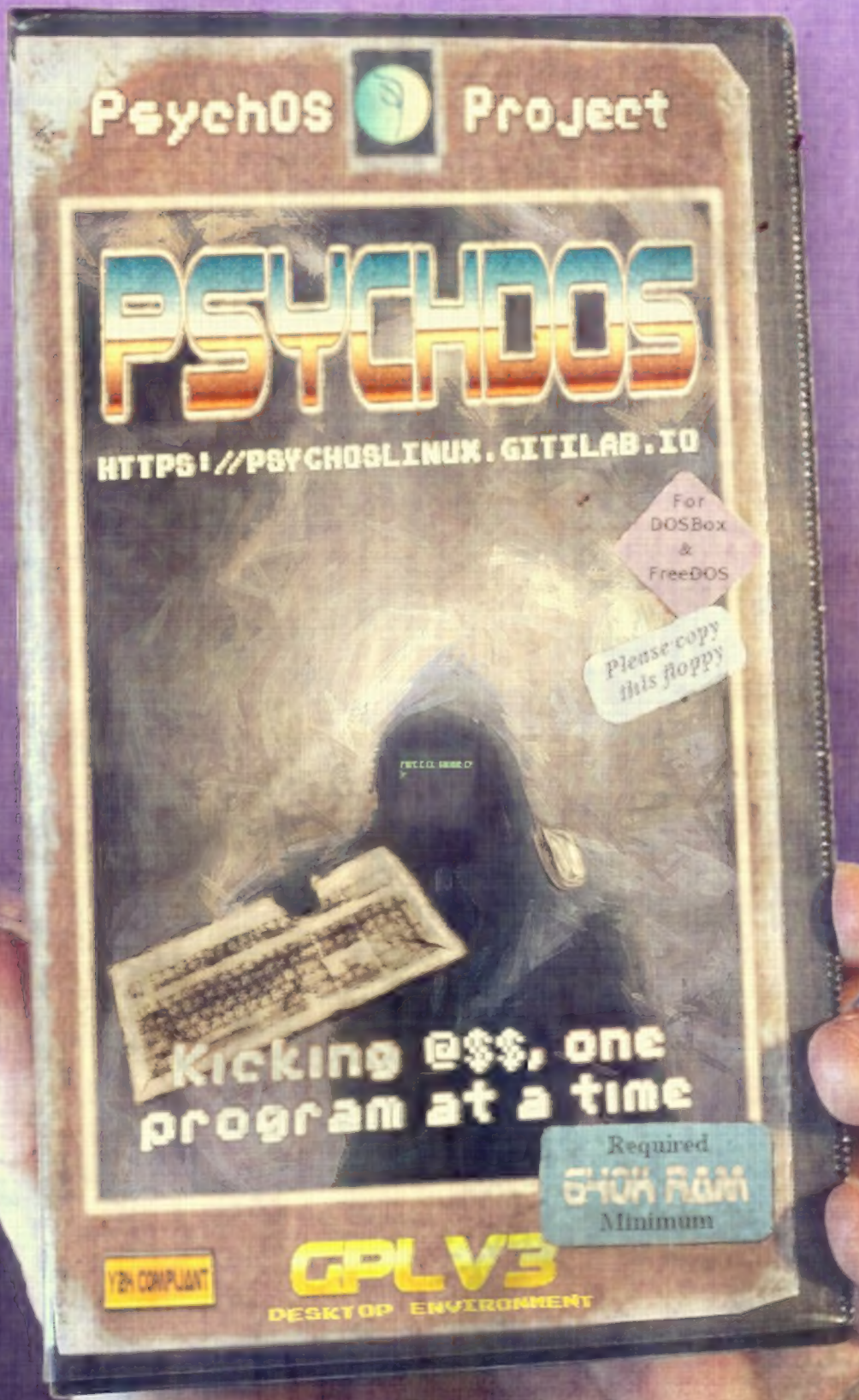

DOS Like A Boss!

Page 3.5

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EDITORIAL

"Everything is on Page 3.5!"

Welcome to the first (and maybe only) issue of Page 3.5 by TheOuterLinux. In this edition, we are taking an exclusive look at PsychDOS, a desktop environment for FreeDOS, MS-DOS, and DOSBox users, as well as other projects by TheOuterLinux. In other words, this particular issue is more or less of a way to brag about some things I have spent half a decade or more on and act as a quick guide for PsychDOS but in an old computer magazine-like way.

Basically, I wanted to create something unique using only free and open-source software to go along with PsychDOS's initial release. There could be more of these in the future, but I am not sure yet.

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- ✔ Mastodon: https://mastodon.social/@TheOuterLinux
- ✔ Archive.org: https://archive.org/details/@theouterlinux?and[]=mediatype%3A%22movies%22
- ✔ Sketchfab: https://sketchfab.com/theouterlinux
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- ✔ Reddit for TheOuterLinux: https://reddit.com/r/theouterlinux
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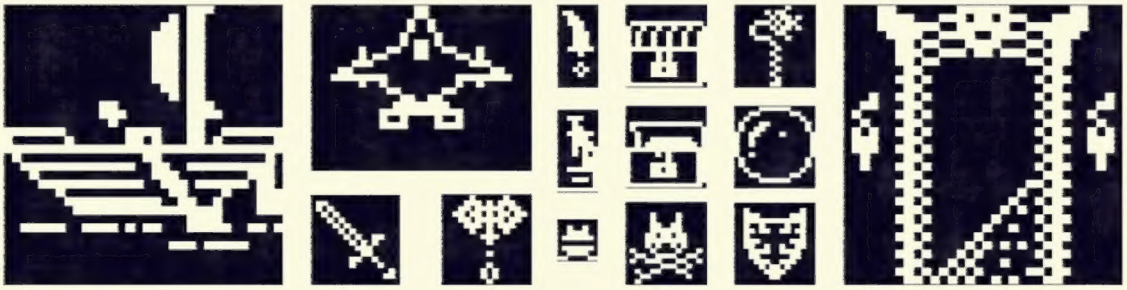
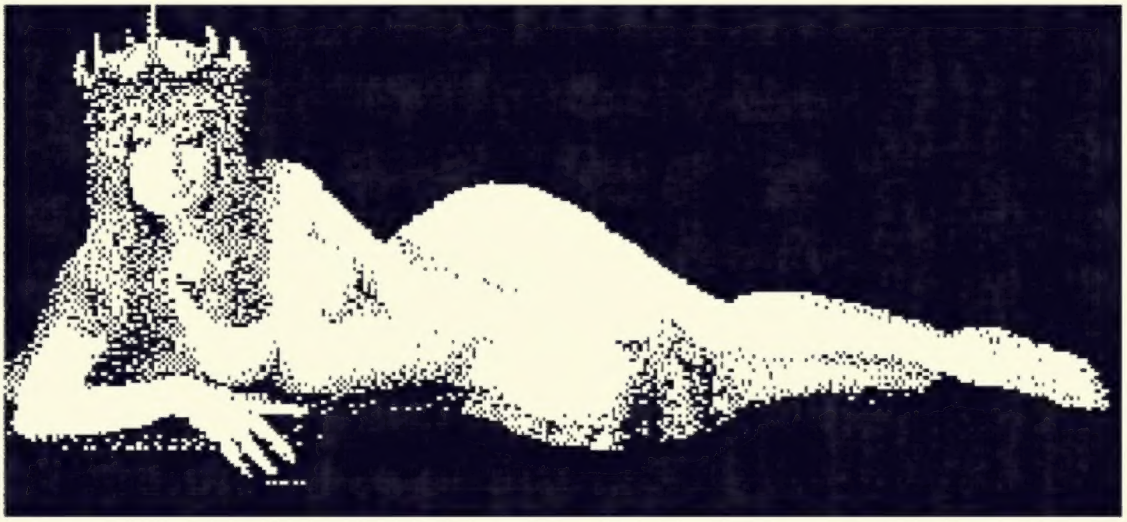
IMG2VDU

Creating ASCII graphics for the Beeb/Speccy has never been easier!



No more need for graph paper or complex calculations. Just copy and paste the output!

Powered by Python!



For more details on the IMG2VDU project, please visit the Projects section at https://theouterlinux.gitlab.io

"Ac437 EpsonMGA" font by "VileR" at https://int10h.org/oldschool-pc-fonts/

WANNA BUY SOME STUFF?
I GOTZ STUFF.
STUFF OVER AT HTTPS://
THEOUTERLINUX.GITLAB.IO
/PUBLIC/SHOP.HTML
GNU/Linux
BASIC
READY
10 PRINT "HELLO WORLD!"
RUN
W
S
D

In The Beginning

Once upon a time there was a very bored person. And being a good nerd of good computer sense, in other words, a GNU/Linux user, an idea came to mind. I have been using GNU/Linux for quite some time now and started to wonder just how others were creating these amazing free and open-source distributions. After a bit of research, to which you can read development logs for at https://psychoslinux.gitlab.io/documents/PsychOSDevLogs/Descending Index.html, I was eventually led to the wonderful and easy to use SUSE Studio.

SUSE Studio *was* this magical website in which you could create an openSUSE or SUSE Linux Enterprise-based distribution, maintain your "distro," and manage your own repository; you could even do this multiple times on any device with a web browser that supported Cookies and JavaSscript. And up until discovering this service, I have tried a few, very light, GNU/Linux distributions, such as TrisquelOS, TinyCore, Damn Small Linux, Puppy Linux, some Ubuntu derivatives, Debian, and so on and so forth. However, SUSE Studio ended-up being the easiest option. There is nothing quite like having someone else's server

do all of the work for you while are binge-watching your favorite TV shows, 3D modeling, playing video games, or whatever other nerdy thing you can think of until you get that "your build is finished" E-Mail.

However, despite how the development logs are labeled, I have yet to come up with a name or actual purpose for the amount of work I knew that I was about to put into all of this. At this point in time, I had already "dipped my toe" into various research-oriented projects and was curious as to whether or not anyone else out there had bothered to create a GNU/Linux distro for this purpose. It turns out that there were but after trying a few and reading through forums for specialized software beyond an office suite and a calculator, most of these distros were re-branded, Ubuntu-based garbage with a handful of "educational" software that would have been better suited placed in the the freedesktop.org specification's Games category than anything. It's okay if you do not understand what that sentence means; that's the whole point of making an easy to use GNU/Linux distribution in the first place. You should be able to think and tweak if you want to but still be productive even if you do not. Most of the GNU/Linux distributions I have found in my research assumed that you were going to tweak things and left much to be desired, as if they were not fit for much beyond high school use.

So with no truly adequate research distros to choose from, other than the occasional out-dated chemistry-oriented ones that you sometimes stumble on when on a DistroWatch "walk-about," I decided to take matters into my own hands, as someone that has actually been in the "thick of it." And because most of what I have done up until this point was Psychology-related, to which this field has few out-of-the-box GNU/Linux options beyond a few, complicated, command-line Python projects, I decided to dub my GNU/Linux distribution "PsychOS."

PsychOS - OpenSUSE 13.2

When referring to "PsychOS" (pronounced as "sī" + "kōs") without the word "Project," I am referring to the i686 GNU/Linux distribution. At this point in time of the PsychOS Project's history, there was no "project" and the idea of attempting to create various distributions for much older or lighter hardware had not even crossed my mind yet; I just wanted to make something cool but useful.

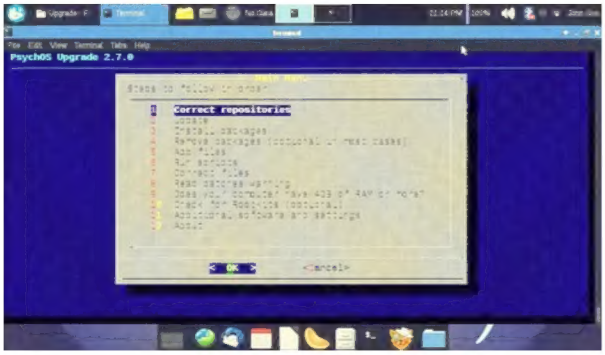
Almost everyday, I would log into SUSE Studio, add software, add files for further customization, tell the service to create an ISO, keep a copy of the detailed PDF it would generate just in case the "crap hits the fan," followed by burning the ISO to a DVD for testing every few days and repeat the processes over and

over again. OpenSUSE 13.2 as a base was working incredibly well on a 2008 *Acer Aspire One ZG5* with 1GB of RAM. And just in case anyone out there is looking this model up, I was using a USB CD/DVD disc drive for burning and booting as I prefer to keep discs as backups instead of trying to fit multiple ISOs on a hard drive that could crap-out on me at any time and then I would loose everything. Let us just say that I have quite the stack of DVDs at this point.

If you have browsed the PsychOS Project website, you may have noticed that there are no listed previous versions of PsychOS,

such as PsychOS 2.6.1, the last reliable release that I could make using SUSE Studio. This is because up until now, everything on the site worked mostly well, even when the 32-bit and eventually the 64-bit versions of openSUSE 13.2 disappeared as a base option. The repositories were also failing to provide updates or install software at all. What was once a beautiful build service forced others out to utilize what I would call "Open Build" garbage.

I made an attempt at using the Open Build Service but it was and still appears to be incredibly difficult compared to what SUSE Studio had, to which after the site decided to "call it quits," SUSE Studio merged with OBS to form "StudioExpress," which is just as confusing to use. If the original SUSE Studio had just had both 32-bit and 64-bit versions of Tumbleweed as an option, PsychOS perhaps would have still been based off of openSUSE.



But before the SUSE Studio that I enjoyed came to a complete halt, ISOs were constantly failing to build and the E-Mails sent back and forth to administrators gave no hint what so ever as to their future plans that would have explained everything. So for a good while, I attempted to keep the openSUSE version of PsychOS updated by creating my own BASH scripts to help fix things such as changing repositories to Tumbleweed for longevity, updating software based on these changes, updating and adding software from source, and I even went as far as to come up with a way to recursively check the Tor Browser site for updates since PsychOS also included this

software but was installed manually.

And if that bit at the end about including the Tor Browser in a GNU/Linux distribution meant for research has thrown you for a loop, just know that by the time I had a public, on-line release of PsychOS, it was including not just boring things like statistics software, office software, and so forth but also had Kodi (without including add-ons), emulators for various game consoles, some free and open-source games, and other forms of entertainment. It had tons of command-line tools. It had software for P2P encrypted communication. It had lots of graphics software. It had all sorts of things available to the user out-of-the-box and this idea still rings true with today's version as it is always better to have and not need than to need and not have. When building these sorts of things, once you go past the CD-ROM limit size, you might as well go as high as you can, to which was about 3-4GB in ISO size before SUSE Studio builds would fail. A standard ISO cannot hold more than 4GB of information.

PsychOS - Devuan ASCII

Sooner or later, something else had to be done besides creating BASH scripts for upkeep and so after taking a short break to explore more free and open-source desktop software, PsychOS was clearly in a need of a major upgrade. Armed with a better knowledge of respinning GNU/Linux distributions, I revisited some of my original choices and explored newer ones and eventually came to the conclusion to use Devuan ASCII as my base.

Devuan ASCII is a fork of Debian 9 in which it does not use systemd, a system and service manager that runs as PID 1 and starts the rest of the system, to which many, like myself, that use GNU/Linux for desktop usage are not a fan of. Devuan ASCII has both a Live and an Installer option for downloading but the Live option still includes an installer and therefore would allow people to "try before they buy" (that's a joke; it's free of charge). And after discovering the Respin project, a fork of Remastersys, using this GPLv3 licensed Devuan distribution was fairly straight forward. All that was needed to be done was to add

software, remove software, run software and setup things ahead of time for the user to not have to worry about things, add custom Thunar actions, customize XFCE's panels just a bit, beef-up security, and so on and so forth.

However, that is all easier said than done. Even with the help of SUSE Studio when it was active, it took almost a year to have a public release. And when working on the PsychOS 3.x series every single day, though not all days have notes for them, it took almost six months and then another six months just to go from version 3.4.5 to 3.4.6. Let us just say that if you have not tried PsychOS for i686 computers yet, please do; a LOT of work has gone into it and just when you think you have discovered everything, you probably have not; please make sure to take a look at the files in the Home directory's LookHere folder for details, especially the release notes. Also take note that PsychOS was mostly developed on the fore-mentioned Acer netbook with 1GB of RAM with just a "dash" of 32-bit 2008 pre-October 4,1 Macbook with 4GB of RAM instead of the standard 2GB. So, assuming that you will actually try PsychOS on an i686 computer with a DVD disc drive and not trying to use a newer 64-bit UEFI computer, you should not have too many issues. However, worse case, I guess you could use something like QEMU or VirtualBox. The PsychOS Project's downloads page also has a link to try it on-line, but it is sort of slow.

But let's say you are one of the lucky few to own an old-school i486 computer and are tired of not doing all that much on Windows 95/98 besides playing the occasional *Age of the Empires* or *StarCraft*. And, you still want to do most of these things but have a much more powerful and "free" as in "freedom" system. The PsychOS 3.x series for i686 computers and will not run on this type of hardware. Matter of fact, even if it technically could, you would need a lot more RAM than was ever intended for that system. This is where the idea of creating PsychOS486 comes from.

So at this point, I have a distribution for i686 computers, and that is all fine and good, but could I go even further back? After exploring MANY i486 GNU/Linux distributions, I cam to the conclusion that if I wanted to do this, I needed to do it now as waiting a few years may prove to be too improbable. I would say

it would be impossible, but it is GNU/Linux so it would more likely be too difficult for any sane person to attempt (all hail AlienBOB).

Fortunately, there exist a GNU/Linux distribution called "Slackware." Matter of fact, as of 2021, it is the oldest active GNU/Linux distribution that was first publicly released on July 17, 1993. It was also what the first versions of SUSE Linux was based off of as well as one of the favorites to use as a base for Puppy Linux. And for a while, I had high hopes of using Slackware 14.1 as the base for PsychOS486.

Unfortunately, I could not figure out how to create a respin of the official Slackware 14.1 GNU/Linux distribution. I have found a few supposed forks of Slackware 14.1 such as Salix 14.1 and Porteus-XFCE-v3.1, but these modular-like distros were too confusing to figure out how to customize and then remaster. But eventually, I came across, though honestly was trying to avoid for some reason, possibly because I am not a huge fan of PET packages, was both TXZ Pup and Slacko Puppy 5.3.1.

Puppy Linux is a family of light-weight GNU/Linux distributions that are perfect for quickly booting on older and newer hardware alike if you just need to get some work done and then forget it like it never happened, never needing to install but can still have the option to save your session before shutting down, with encryption if need be. The initial problem with looking at Puppy Linux as an option is when it comes to older versions of Puppy Linux, the package management experience is not great. I also do not like loading SFS files to run applications as they are fairly large; if you are not familiar, the SquashFS files are somewhat comparable to an AppImage in which they contain almost everything needed to run an application as opposed to looking throughout the system for dependencies. The one advantage to SFS is that it is much easier to remove if you do not want to use it; removing software installed by the PPM is a chore. And even though I understood all of this, I have already spent way too much time trying to figure something out and it was time to get over it and move on.

Luckily, most of the Slackware versions of Puppy Linux allow easy installation of normal Slackware packages. And at

this point I was looking at both TXZ Puppy and Slacko Puppy 5.3.1. There are a few Slackware-based Puppies that claim to be based on Slackware 14.1, but I am not so sure of this as according to QEMU with the "-cpu 486" setting, they will not boot and require an i586 system, which is closer to Slackware 14.2. Perhaps these pups were using 14.1 originally, but then updated the kernel and are a weird mixture of i586 and i486 packages?

TXZ Puppy is great but picked Slacko Puppy 5.3.1 to be the based of PsychOS486. This distribution on its own is light and fast but of course as the creator of the PsychOS Project it is my solemn duty to bust this distro into a million pieces, jam it full of software, and then duct tape it back together in the coolest but most useful way possible. And oddly enough, even though being based on Slackware 13.37, the Puppy Package Manager is still functional if you choose the right servers when asked. So, I loaded this sucker up with as much useful software as I could. However, after spending a LOT of time installing software the both the traditional and manual way, it still felt somewhat lacking. This is why it also includes WINE as it is MUCH easier to run an i486 EXE than it is to compile ancient software from source. I tried to use both the devx SFS on Puppy and Slackware 14.1 with SlackBuilds.org to compile wanted software, but that proved to be impossible as Slacko Puppy 5.3.1 uses the much older 2.6.37.6 kernel and an older glibc version. And before any of you become "hell-bent" to prove otherwise, just know while doing so, I have broken the system so many times I have lost count and is also probably why the included GParted program currently does not work, so you have been warned.

But eventually, I created a mostly working i486 cousin of PsychOS. What was once a single distribution for i686 computers has now become an entire project dedicated to keep older and lighter hardware working for as long as possible. And "knock on wood," at the time of this writing there have been over 6,000 downloads, nine officially reported issues on GitLab, all of which are closed, and over 2400 votes on DistroWatch's waiting list. But what about the i386 and older users?...

```
[ OK ] ROUTINE FSCK STARTED.
       CHECKING FOR ROSE-COLORED GLASSES... YEP.
       CHECKING FOR CURIOUSTIY... WHY NOT?
       CHECKING FOR PERSONAL FREEDOM... DEFINATELY.
       CHECKING FOR TONS OF INCLUDED SOFTWARE... GIMME! GIMME!
       CHECKING FOR EASE OF USE... MOSTLY HARMLESS.
[ OK ] STARTED SYSTEM REQUIREMENTS REMINDER.
       CHECKING FOR 32MB OF RAM OR MORE... PASSED.
       RUNNING UNAME -M... I486 DX MACHINE DETECTED.
       THAT IS ALL THAT IS NEEDED. YOU ARE GOOD TO GO!

[ NOPE ] STARTED DATA COLLECTION.
[ NOT LIKELY ] STARTED SPYWARE.
[ NOT LIKELY ] STARTED VIRUSES.
[ GOOD LUCK ] STARTED RANDSOMEWARE.
[ LOL ] STARTED CRYPTOMINING.

[ FAILED ] ASKED SYSTEM ADMIN FOR A LICENSE FEE.
           JOKING. THIS DISTRO IS $FREE FOR ALL.

TO RECTIFY ANY OF THE ABOVE FAILURES, PLEASE FEEL FREE TO
GAMBLE ON THE LATEST I486 VERSION OF ANY PROPRIETARY OPERATING
SYSTEM IN WHICH WE ALL KNOW YOU WILL RELUCTANTLY "BORROW" AS
MUCH SOFTWARE AS POSSIBLE JUST TO END UP DOING THE SAME TASKS.

[ OK ] AVAILABLITY CHECKED.
       GRAB YOUR OWN COPY AT HTTPS://PSYCHOSLINUX.GITLAB.IO
```

The PsychDOS Desktop Environment

by TheDeterLinux

Figure 1: A screenshot of the PsychDOS desktop environment's programs menu

To put it simply, PsychDOS is an ANSI-like desktop environment created using Visual Basic 1.0 for DOS, also known as "VBDOS," with plenty of included software to enhance its usability. PsychDOS is not an operating system but like other older operating systems such as the glorious Windows 3.11, it does depend on its users to already have an IBM-compatible DOS system installed such as MS-DOS or FreeDOS. However, as a desktop environment by itself, not including the extra software, unlike Windows 3.x and newer, PsychDOS's simple but deceptively complex ANSI interface (Figure 1) does not depend on you having an i386 system as it is compiled using VBDOS's "80x87 or Emulator Math" optimization settings.

PsychDOS is also part of a project called "PsychOS" in which the main focus is to create live and/or installable distributions, GNU/Linux-based or otherwise, for 32-bit and older hardware and to maintain these distributions for as long as possible, even if the only means of doing so is by creating software or scripts. The

PsychOS Project currently has an i686 GNU/Linux distribution called "PsychOS," an i486 GNU/Linux distribution called "PsychOS486," and now has something for the DOS-lovers called "PsychDOS."

The Interface

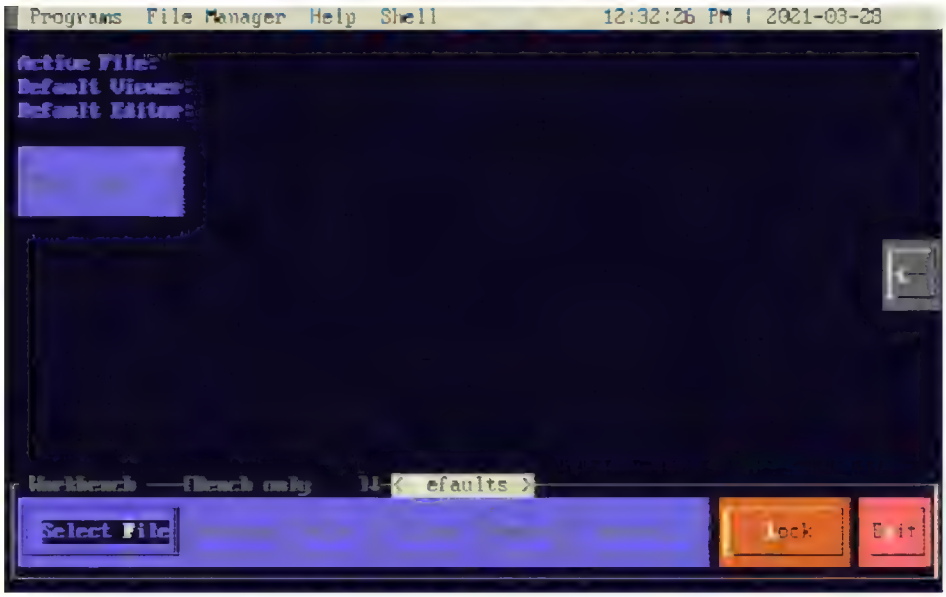


Figure 2: The default view of the PsychDOS desktop environment

Before beginning to explain some of the features and technicalities of PsychDOS, unless otherwise mentioned, file-paths are relative to "DRIVE:\PSYCHDOS"; this keeps me from having to type a bunch of text in quotes. Anyway...

After running PsychDOS's RUNME.BAT, you are presented with a keyboard and mouse friendly, ANSI interface. This interface has a Programs menu, a File Manager option, a Help option, a Shell option, and the time and date at the top.

Just below the top menu, you will see some text displaying the currently selected Active File and what programs the Workbench will use if the Preview or Edit buttons are utilized, though they may be blank if no Active File is selected. And underneath this text, you will see a button labeled "More Info..." that may or may not be enabled depending on whether or not an Active File is selected. All this button currently does is displays the LOOKHERE\FILETYPE.TXT file.

To the far right of the screen, there is an <- button that when clicked, it displays private messages left to the user by others while the screen is locked.

And last but definitely not least, is the Workbench at the very bottom. This feature has buttons for selecting an Active File, Previewing the Active File, Editing the Active File, Clearing the Active File, Notes on the Active File, and an option to use a pastebin service based on the Active File for easily sharing with others, particularly over a cellular device.

Active File

So what is this "Active File?" The Active File on PsychDOS is the file selected using the Workbench's "Select File," which

then you are presented with a file section window (Figure 3). After selecting a file, which can be most things besides a directory (see "Active Directory" section), the text displayed just below the top menu bar changes to show what file you just selected and what programs the Workbench will use by default (see "Changing Workbench Defaults" section) when selecting the Preview/Edit buttons, which also change based on the proposed type of file you have selected based on the file extension.

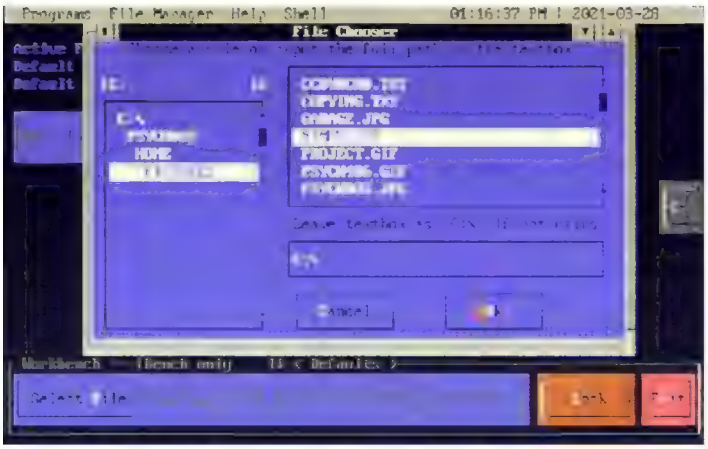


Figure 3: Active File selection window

Active Directory

When selecting an Active File, PsychDOS automatically assumes that the same directory in which the chosen file is located will also be the "Active Directory." This is helpful in some cases with the Workbench's "Globally" option for utilizing other programs from the Programs menu and for the SHELL option in the top menu. For example, PsychDOS includes some example files in the HOME directory to play around with. In the HOME directory's DOCS folder there is a directory called STRYGAME, which is an example for using with the Program menu's FreeBASIC option. However, how does the FreeBASIC helper window know where to put the compiled EXE? It knows this based on the contents of CONFIG\ACTVDIR.CFG, where the path of the Active Directory is stored.

Another example of the importance of PsychDOS grabbing the Active Directory is for when using the SHELL button at the top menu while the Workbench is set to "Globally," as this allows the SHELL to open at the Active Directory's location as opposed to just DRIVE:\PSYCHDOS. This way, you can make edits to the file using the Workbench's Preview/Edit buttons and then go even further with the command-line (see included tools within PROGRAMS\SYSTEM\BIN). The RUNME.BAT file used to start PsychDOS temporarily places PsychDOS's command-line tools within your DOS system's PATH.

Active File Information

After selecting an Active File, the text just below the top menu bar changes to reflect the selection (Figure 4), as well as the label for the button that opens the Active File selection window.

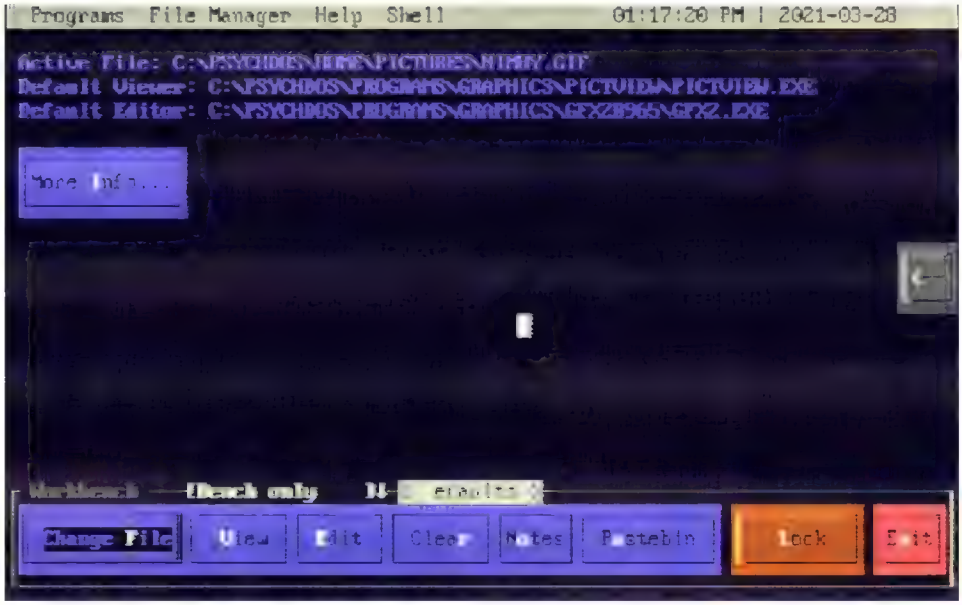


Figure 4: When Active File is selection, brief information becomes available.

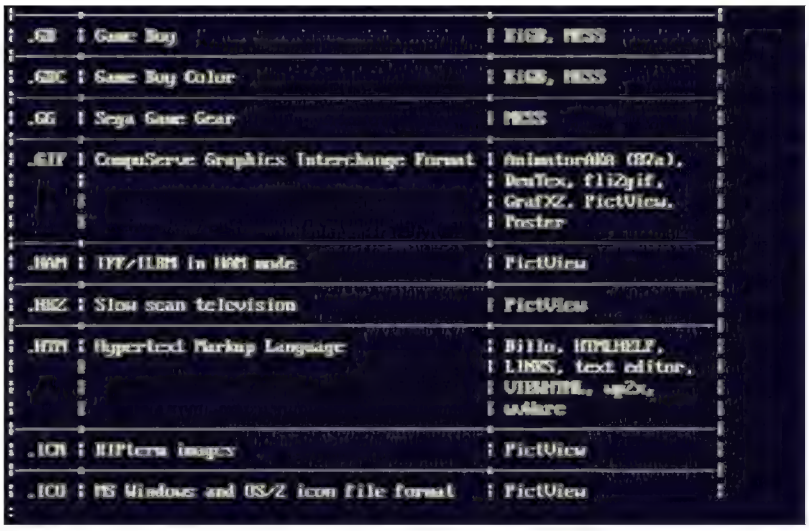


Figure 5: FILETYPE.TXT displaying file extension information

You may also notice that the "More Info..." button is no longer disabled and can be clicked to view the file within the LOOKHERE\FILETYPE.TXT (Figure 5) for a list of known supported file formats and a little bit of information regarding each one, as well as the included software that supports these types of files in one way or another.

Also, because you now have an Active File, the "Select File" button changes to "Change File" and when used, the file selection window starts at the current Active File's directory so that you are not constantly navigating to the same directory to edit files relative to each other.

However, after running a program, such as the File Manager, and let's say that you deleted the Active File or moved the file somewhere else while using that program, some of the Workbench's buttons will become disabled. If this does happen you may notice how the Active File information remains but the buttons are affected by the missing file. All you need to do is either use the "Clear" button to reset the Workbench or use the "Missing File" button (the "Change File" button text

changes) to correct the changed location of the Active File or select a different file. When this happens, the Active Directory location is reset and you must navigate from DRIVE:\ because the Active File may not have been the only file you renamed, moved, or deleted and it is just safer to do it this way since the Active Directory itself may not also exist.

The Workbench Preview Button

"Wait a second, isn't this actually a 'View' button?" Hmmm.... maybe. But through-out this project, I have been calling it the "Preview" button and based on what the source code, CONFIG directories, and so forth have to say about it, it is still somewhat of a mystery. I honestly do not care what you call this button. But for the purposes of this document, I am going to call it the "Preview button," to which technically, you are only using it to "Preview" a selected file, such as an image or modular music format like MOD or MIDI, before perhaps using the "Edit" button. See what I mean? In either case, the Preview button is used to "Preview" an Active File before making any sort of edits. However, depending on the file extension, the button label text may change to things like "Read", "Play", "Listen", and etc.. The default viewer program used is based on what is in the CONFIG\PREVIEW directory and can either be changed using the "Defaults" button just above the "Clear" and "Notes" buttons or manually as these settings are stored in plain text.

The Workbench Edit Button

The "Edit" button is used to quickly edit the Active File using a program that is based on the file extension and what the CONFIG\EDIT configuration files have to say about it, much like the Preview button. And like the Preview button, the Edit button label may change depending on the file extension, though rare and if it does change, it is more likely to be labeled as "Convert" if the file format itself is not supported by included software beyond conversion, to which then you may then want to change the Active File to the converted format and then be able to make edits. Please take advantage of the "More Info..." button for help/ideas on this.

The Workbench Clear Button

The Workbench's "Clear button does essentially what it implies, it "Clears" the Active File from the Workbench; it does not delete the Active File. This button is more or less for the "OCD" folks that like keeping things clean or do not want a plain-text record of what their last Active File, Active Directory, and other "Active" related items as far as PsychDOS is concerned. However, if this is the case, you may also want to open Programs -> Run and then use the Clear button as well to remove the last ran program information.

The Workbench Notes Button

Do you hate making a bunch of edits to a file, knowing that you are not going to finish what you need to do and will have to come back to it later? The Notes button is here to help! This feature not only can be used to keep notes on the Active File, it does so for each Active File, meaning it isn't just a general scratchpad.

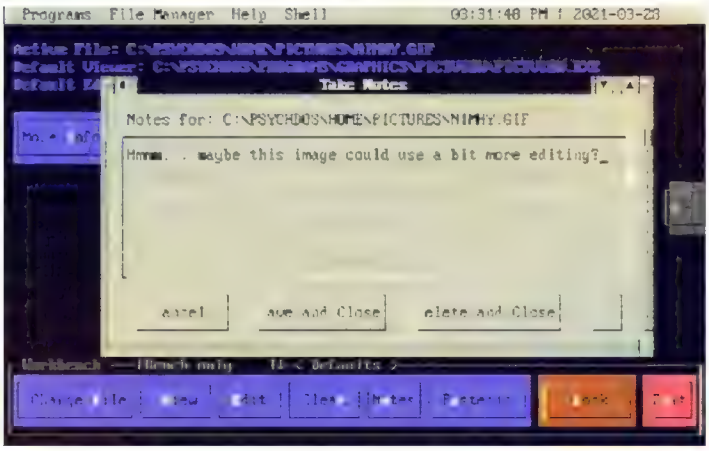


Figure 6: You can jot-down notes relative to the current Active File

For example, let us say that your Active File is NIMHY.GIF, an image included within PsychDOS's HOME\PICTURES directory. When typing notes, only those notes are for NIMHY.GIF and no other file. These notes are stored in the Active Directory as NOTES\FILENAME.NOT in plain-text. However, I would like to mention real quick that text-boxes within the PsychDOS desktop environment can only display up to about 32K's worth of text as in file-size, so do not "write a book" for each note.

The Workbench Pastebin Button

This button opens a Window for options in which you can upload the Active File to a pastebin site for easy sharing, assuming the pastebin site supports it.

For example, let us say that you used the included "GrafX2" program to digitally paint a 256-colored master-piece that you would like to share with a friend. You also have Internet setup properly on your DOS system but are not in the mood to send an E-Mail or the E-Mail/messaging client of your choice does not support attachments. What do you

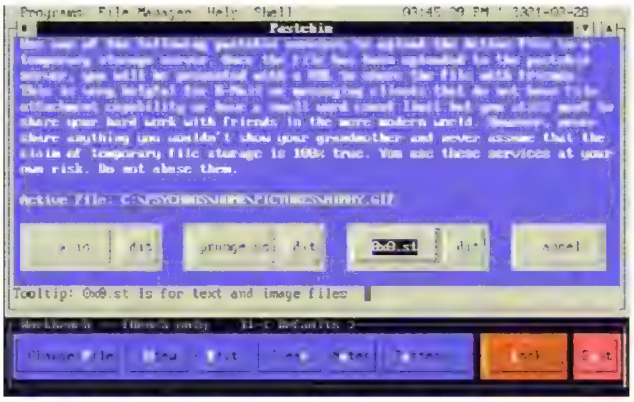


Figure 7: Use a pastebin service to temporarily create a shareable URL to message your friends.

do? Use a pastebin site. The defaults are for sites like "ix.io", "sprunge.us", and "0x0.st"; however, PsychDOS's pastebin-related batch files in the CONFIG\PASTBIN*.BAT and can be edited using the Pastebin window's Edit buttons or manually as batch files are in plain-text.

But if you do edit these batch files, be careful to pay attention to the format as that is important for telling PsychDOS how to label the buttons and what to display in the tool-tip area at the bottom of the window. Either way, because we are using an image and "0x0.st" supports images and uses plain http (the included cURL program has issues otherwise), we can use it to upload the Active File, which is our image.

The Lock Button

Though still technically part of the "Workbench," its features

Figure 8: After clicking the Lock button, you are presented with a few more options.

have nothing to do with the Active File. When selected, you are presented with a window with buttons such as "Lock Now", "Public Message", "Friend Message", "Change Password" and "Cancel" (Figure 8).

Screen Locker's Lock Now Button

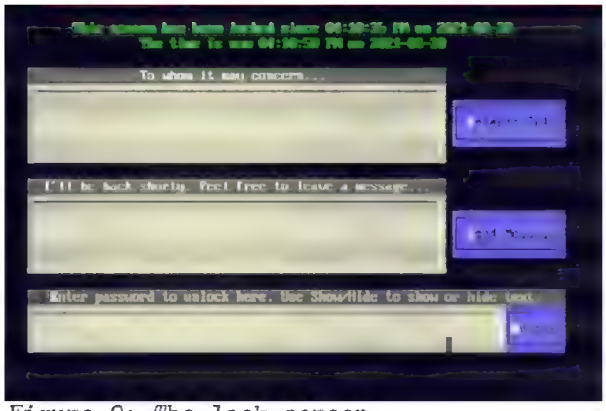


Figure 9: The lock screen

When selected, PsychDOS's main screen is replaced by a lock screen (Figure 9) with options such as a message to the public, a button for friends to click and then enter a password to display a friends-only message, an area for anyone to send you a private message that can only be displayed after unlocking, and an input box for the password to unlock the screen.

The Screen Locker's Public Message option

So, let's say that you are "at the office" and you need to go to the bathroom but the secretary is coming by the desk soon to grab some papers and they might need

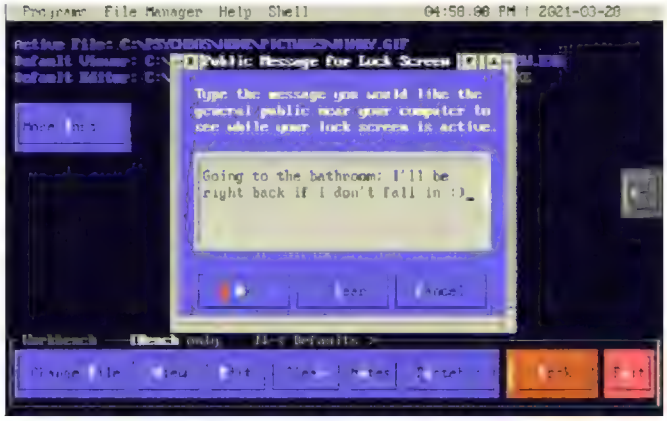


Figure 10: You can enter a Public Message for everyone to see on the lock screen.

to now that you are still around and that you will be right back. You look around for a scratchpad to leave a message but you can't find one because your co-workers like murdering trees and yet none of the pens ever seem to work anyway. So what now? In PsychDOS, all you need to do is before locking the screen, which is a requirement in most offices if leaving your computer, is use the "Public Message" option to leave anyone passing by your monitor a note (Figure 10).

Screen Locker Friend Message option

But let's say while you are at it, if a friend walks by and sees your screen locked, you may want them to have their own password protected message to read (Figure 11). However, do understand that this "password" is stored in

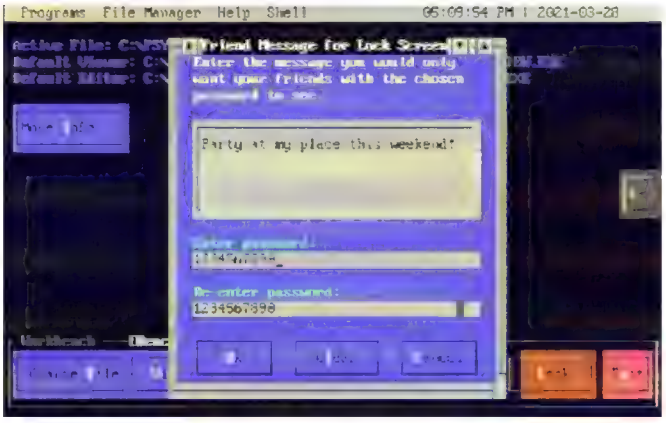


Figure 11: You can create a password protected, Friends Only message to be accessed from the lock screen.

plain-text and so a reboot, followed by an inspection by the boss may get you fired if you get too carried away. And just in case the "security buffs" are noticing the lack of asterisks while typing in passwords, I have yet to have figured out a way to do that and so for now, people will just have to look over their shoulder.

Lock Screen Private message box

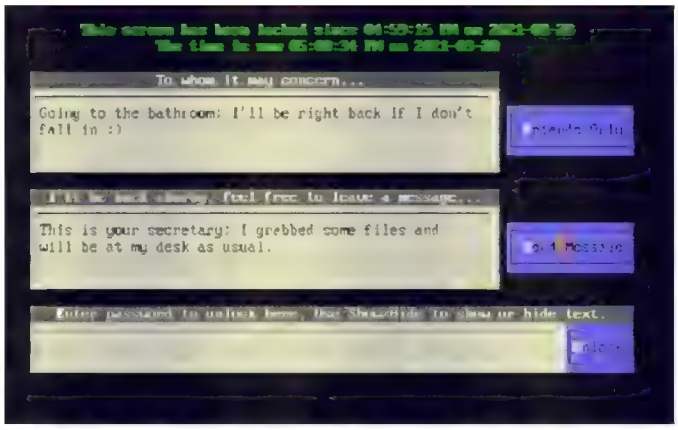


Figure 12: People can leave you Private Messages from the lock screen while you are away.

Now that you have entered your public and friends-only messages, you decide to lock the screen and run to the bathroom. The secretary walks by your monitor and sees that your screen is locked and knowing that you check your private messages, they leave a message using the "leave a message" text box (Figure 12). After clicking "Send Message," the text in the box will clear. But, you are taking your sweet time in the bathroom and a close friend stops by on their break from their job to say hello. However, though you are not there, they can still use the "Friends Only" button on the lock screen to see if you have any messages for them like in Figure 13 and 14.

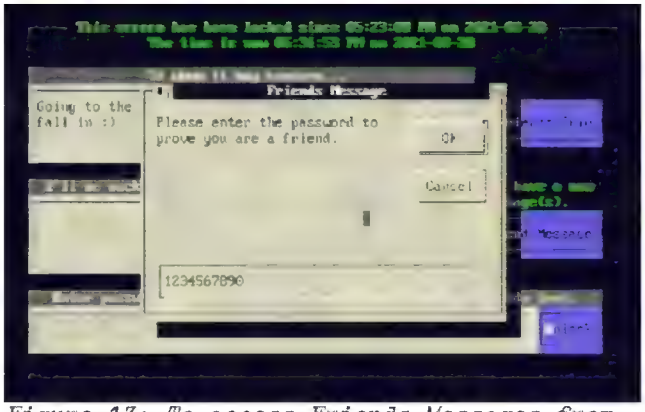


Figure 13: To access Friends Messages from the lock screen, you must enter the correct password.

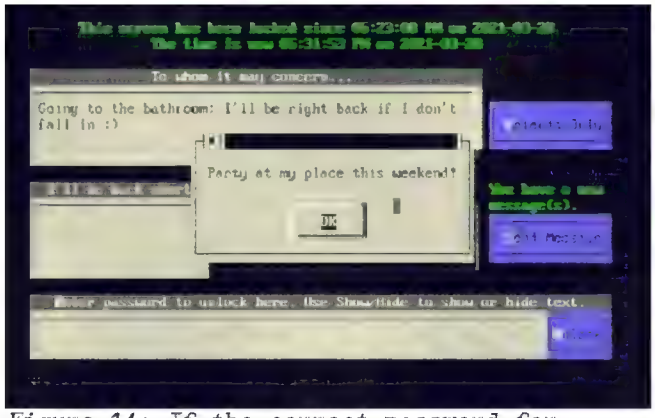


Figure 14: If the correct password for Friends Only messages is entered, a message box is used to display message.

Screen Locker Change Password option

This should be self-explanatory, but this option helps users change the lock screen password. But be warned, this password is stored in plain-text and is shown in plain text when typed. I have yet to have figured out what to do about this. Attempts have been made to utilize encryption software but most that I have found do not have a way to make sure that the resulting file when decrypted is not complete garbage if the wrong password is used and then to make things worse, the encrypted file is then destroyed, making it impossible to unlock the screen and therefore have to reboot. Some may see this as a security feature, but I say let us have a bit more common sense as to what type of system PsychDOS is being used on and make peace with it.

Message Checking

When someone leaves you a private message from the lock screen, your messages are saved in a plain-text file within the CONFIG\LOCK\PRIVATE.MSG file and are timestamped. However, you do not need to go out of your way to open this file with a text-editor. All you need to do is unlock the screen and then click the cyan colored button on the right-side of the screen to reveal a message center box (Figure 15) with a few options. When there are no messages, this button is gray colored.

Figure 15: View private messages sent to you from the lock screen.

The arrow buttons are for toggling show and hide of the message box. The Read button is for reading your private messages using the default text viewer, which can be changed (see next section). The Save button is for

saving your private messages as HOME\DOCS\PRIVATE\YYYYMMDD.TXT, in which the file name is the year+month+day. The Clear button is for clearing any recent, unsaved messages. You may want to do this every so often as text boxes made with VBDOS can only hold 32K in size worth of text.

Changing Workbench Defaults

The Preview and Edit buttons on the Workbench know how to open/edit files based on preset, but editable, defaults. It has a way to do this for most of the commonly found file formats. File formats are categorized as documents, HTML, scripts, images, video, modern music, modular music, MIDI, IWAD, and what to use in cases of missing file extensions. To change what programs are used for the Preview and Edit buttons, click the Workbench's "Defaults" button. Afterwards, you are presented with a large window (Figure 16) with multiple input boxes. On the left side, you have what programs are used for certain file formats when the Preview button is clicked. On the right-side, you have what happens when the Edit button is clicked. If at any point you get confused as to what programs to use if you do not like the default settings, pay attention to the tooltip at the bottom or select an input box and then click the Help button. If your computer does not have a mouse, tab until you get to the input box you want to find out more information on and then use "Alt+h".

If you do make a mistake somewhere along the way, you can always use the Reset button. I would also like to mention that you can edit these settings manually from within CONFIG\PREVIEW

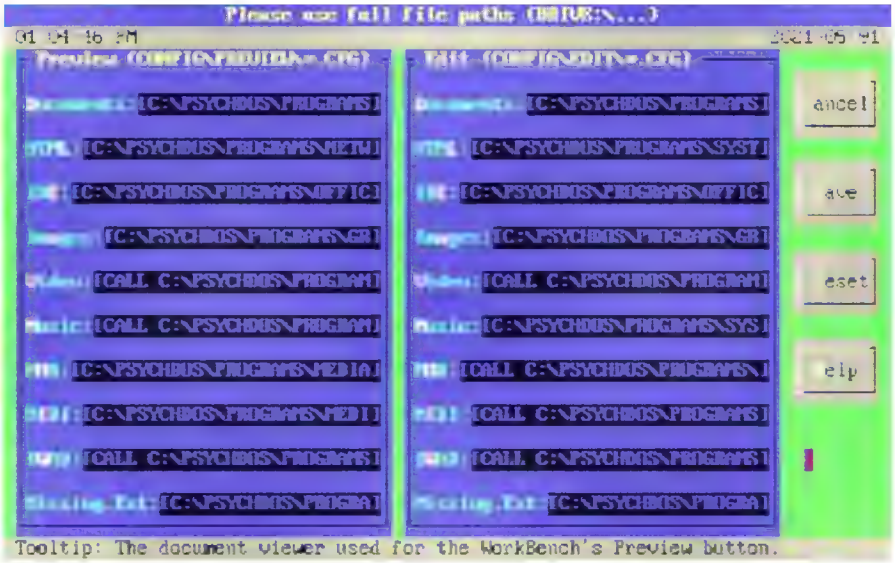


Figure 16: Changing the default programs used for the Workbench's Preview and Edit buttons

and CONFIG\EDIT. You may even find some extra settings not listed in the main editor but please be careful changing them manually and take a look at the CONFIG\ README.TXT file first.

Download and Installation

Download

If for some reason you obtain a copy of this document by some sort of "unofficial" means, then

you may not have an official copy of the PsychDOS desktop environment. If you would like a copy, which is absolutely free, please visit https://psychoslinux.gitlab.io and look for "PsychDOS" related links on the home page to get you started. Please also make sure to take the time to run an md5sum on the downloaded archive file before using and if the md5sum does not match, please E-Mail me immediately.

Installation

Requirements

- A little bit of knowledge of how DOS systems work
- 16-bit or newer computer
- An installed copy of MS-DOS 5.0 or newer, FreeDOS 1.2 or newer, DOSBox, or DOSEMU
- 400MB of free hard drive space unless you decide to remove unwanted software from the PROGRAMS directory; you can also try deleting the example files within the HOME directory.
- A USB or CD-ROM to store an uncompressed copy of PsychDOS for transfer if using a DOS computer

Getting it up and running

The Basics

Assuming that you already have successfully installed MS-DOS or FreeDOS on your "old smokey," installing PsychDOS is as easy as just getting an uncompressed copy onto your C:\ drive as in C:\PSYCHDOS. That's it; no need to edit your AUTOEXEC.BAT file, unless you want to have PsychDOS started up at boot, to which then you would just add:

```
CD C:\PSYCHDOS
RUNME.BAT
```

However, if you did not install PsychDOS to your C:\ drive, you will need to edit the DRIVE:\PSYCHDOS\RUNME.BAT file so that the part that says "SET ROOT=" uses the drive letter PsychDOS is installed to. This is because many of the PsychDOS's Programs menu items utilize BATCH files that contain this variable so as to always CD into the correct locations if needed. But when in doubt, add PsychDOS to the C:\ drive as C:\PSYCHDOS and you should be fine. Also, try not have too many SET PATH=... in your AUTOEXEC.BAT as the RUNME.BAT used to initiate PsychDOS temporarily uses something similar to SET PATH=%PATH%;%ROOT%\PROGRAMS\SYSTEM\BIN and having too many PATHs will cause issues.

Internet

Do you need Internet for PsychDOS to work? No, but PsychDOS includes web browsers and other pieces of software that utilize networking features, such as Telnet, Gopher and etc., as well as PsychDOS's Workbench having pastebin options. If you have installed PsychDOS on FreeDOS or MS-DOS, but on a newer computer, you are probably "S.O.L" and should just skip ahead.

But having that said, for the purposes of promoting free and open-source software, as well as assuming that most people are just wanting to "play around" with PsychDOS and will do so on a newer computer, this section will utilize FreeDOS and the tool QEMU on a GNU/Linux operating system; do not ask me to explain how to do this on Virtual Box or on anything other than GNU/Linux as I do not use Virtual Box or Windows/MacOS and there are plenty of videos across the Internet on this already. But essentially, after installing FreeDOS on either your actual much older computer or on QEMU, you need to reboot the system again with the FreeDOS CD-ROM, USB, or the ISO on QEMU. Afterwards, in the SHELL use FDIMPLES to open a package manager that will install software off of your medium of choice. To make things as easy as possible, select everything under the Internet/Network section to install. Afterwards, if using an older computer, you should be fine as far as Internet goes and can test this out with the Links web browser. However, on QEMU, you will need to use something like the following:

```
qemu-system-i386 -cpu 486 -cdrom
"/path/to/freedos.img" -m 256 -boot d -soundhw
all -vga cirrus -netdev user,id=mynet0 -device
pcnet,netdev=mynet0
```

...And as long as the GNU/Linux system you are doing this on has working Internet, the Internet on QEMU should also work.

The take-away...

If you haven't guessed already, you essentially treat PsychDOS just like you would any other installed application. If you do run into bugs as far as the desktop environment goes, you can either report them over at https://gitlab.com/PsychOSLinux/psychoslinux.gitlab.io/issues or send an E-Mail to psychosgnulinux@protonmail.com.

got PsychOS?

https://psychoslinux.gitlab.io

Accessories

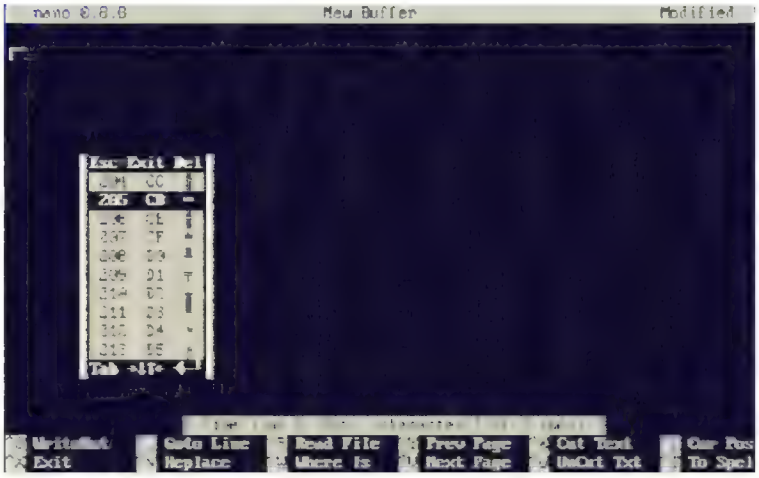
software included with PsychDOS

PsychDOS includes quite a few accessories software, most of which are command-line programs (PROGRAMS\SYSTEM\BIN), but let us take a quick look at the ones utilized from the Programs menu.

ASCII Chart

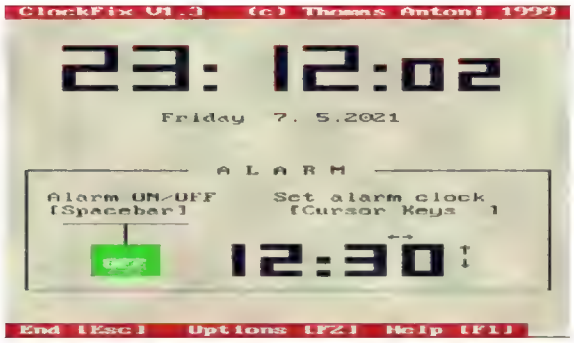
ASCII Chart © Hector Noriega R. 1984-1999. All rights reserved.

This program is unique in that it is a TSR (terminate-and-stay-resident) program that presents the user with an ASCII chart at anytime the keyboard combo *Ctrl+Left_Shift* is used. This is great for small text editors or programs with text input boxes that do not have an ASCII chart for you to use and you need to type a character that isn't the typical English 0-9, A-Z letters. It can also be used to tell you the decimal, hexadecimal, binary, octal, and char values for the character under the cursor if both Shift keys are pressed. For more details, please read the included AC.DOC file.



Alarm

ClockFix © Thomas Antoni, 19.10.99 - 22.12.99, Version V1.3



WAKE UP! Beep! Beep! BEEEEEP! This program does what you would think -- it's an alarm clock. It is not the fanciest thing in the world, but it does have options for changing the alarm duration, the alarm tone, and time in which the alarm gives up.

However, it was originally title as "ClockFix," but I took the included source code and translated it to English as best as I could and then renamed it to Alarm.

File Maven

File Maven™ 3.5a Copyright © 1992-1998 Kent Briggs

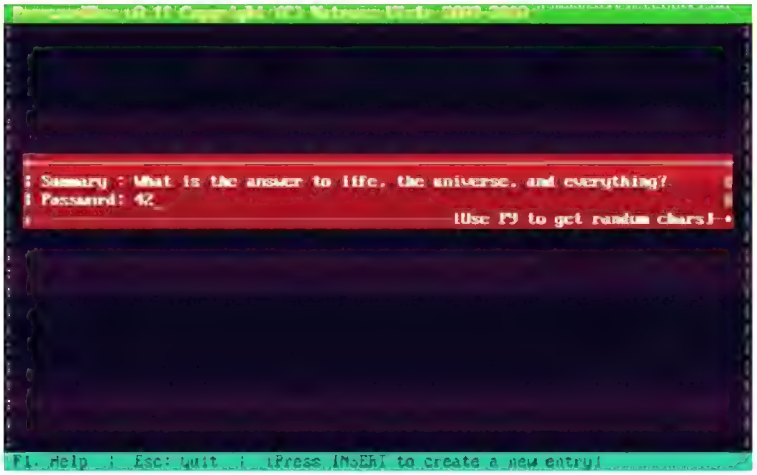
This is a file manager with the typical features of one; except, it also has file encryption, which honestly is the only reasons that PsychDOS includes this program as all other encryption methods I have tried are to experimental to trust. However, if you really want good file management, you may be better off using DOS Navigator instead.

DOS Navigator

DOS Navigator Version 1.51 © 1991-99 RIT Research Labs. All rights reserved.

This item is not launched from the Programs menu but it is the default setting for the "File Manager" option in the same panel area. This is the best file manager I have ever seen for DOS and for those familiar with GNU/Linux, it is a lot like Midnight Commander but with a few extras such as text editing, calculator, spreadsheets, phone book, CD player, and many other options. It in itself would have definitely given early graphical desktop environments for DOS a run for their money.

PasswordBox (PBOX)



PBOX, oddly enough, is a free and open-source password manager for DOS. There is no fancy graphical user interface, but it is very easy to use. When you open it for the first time, it asks for a master password, which can be changed at any time with F10. You then use the Insert key to add passwords. It asks for a summary and then the password. And instead of typing your own, you can tell it to generate a random one for you. What is interesting about this program, as I often like to do things in a "unique" way, is that you are not obligated to just use this program for passwords. You can essentially use it to store any information, much like an encrypted quick notes program. However, do not expect to add URLs and then have the program know what to do about them like with other password managers. There is also no fancy clipboard, so your hard-to-remember passwords will need to be written down when accessed.

Screen Thief (Freeware Version)

Copyright © Villa Software, 1993-2000. All rights reserved.

This a TSR program used for screen captures. It works best on older programs that use ASCII text or ANSI graphics, but it can also be used for EGA and VGA software. However, before you try taking a screen capture of your favorite game's high scores to brag to your friends, it does not play nice with all software. For example, it can be used just fine to take a screen capture of AnimatorAKA, a program used to create FLI animations; however, if you have Screen Thief running while using GrafX2, it unloads it; using BOOM to play FreeDOOM WADs also seems to do this. I was initially going to use Snarf instead, but that TSR does not appear to have an unload option. Besides, Screen Thief has a lot more options. You can take a look at PROGRAMS\ACCESS\st204f\README.TXT or use PATH\TO\st204f\ST.EXE /? in the DOS shell for more details. And if you do not like the default *Ctlr+Alt+s* key combination to initiate a screen capture, just edit the corresponding RUNME.BAT file.

Spellcheck

ispell port by Pavel Ganelin, Catholic University of America, Washington DC 20064

PsychDOS includes a spellchecker called "ispell," a port of GNU ispell.40 to MSDOS. If you have launched PsychDOS for the first time, you may have noticed that this menu item is grayed-out (disabled). This is because ispell is a command-line program and therefore requires a file as an argument to spellcheck. Therefore, you can enabled this menu item by selecting a plain-text file as your Active File and setting the Workbench to "Globally". And when ispell is initiated, it starts from the beginning of the document, looks through its dictionary of known words, asks you what you want to do about words it doesn't understand, either one at a time or you can correct all instances of an unknown word, and then saves the file as well as a backup version of the original before spellchecking.

VIEWHTML

VIEWHTML Quick HTML Viewer 2.5 by Kevin Solway

This program is for viewing HTML (*.HTM) and plain-text documents. When ran without an Active File, you are shown a file browser to select a file to read. However, I do not recommend using it for large documents, such as one of PsychDOS's included E-Books. If you have an HTML file that you would like to view and is large in file-size, please use Links from the Program menu's Network category instead.

Command-line Accessories ("PROGRAMS\SYSTEM\BIN") List

- **64TAPVOC.EXE** - C64 TAP to VOC converter
- **64TZXTAP.EXE** - TZX to C64 TAP converter
- **64VOCTAP.EXE** - VOC to C64 TAP converter
- **64VOCTZX.EXE** - VOC or C64 TAP to TZX converter
- **ADJCLOCK.EXE** - automatic (non-resident) PC-clock adjustment
- **agrep.exe** - Approximate Pattern Matching GREP
- **awk.exe** - pattern scanning and processing language
- **BANNER.EXE** - display a string in large letters
- **basename.exe** - strip directory and suffix from filenames
- **BATMEN.BAT** - a batch file that returns a memory scan
- **BATT.EXE** - returns battery status of much older laptops
- **bmgrep.exe** - a fast pattern matching utility similar to fgrep
- **cal.exe** - display a simple text-based calendar
- **CAPIT.BAT** - use strings to capitalize ASM file opcodes
- **cat.exe** - quickly display all text file contents
- **catdoc.exe** - convert older MS Word DOC binaries to text
- **catppt.exe** - convert older PowerPoint binaries to text
- **CB.EXE** - C beautifier
- **cdiff.exe** - context difference
- **cgrep.exe** - search file for pattern and display context
- **CHECKEX.BAT** - scans the path for a program name
- **chgrp.exe** - change group ownership
- **chmod.exe** - change file attributes
- **chown.exe** - change file owner and group
- **cmp.exe** - compare two files
- **comm.exe** - select or reject lines common to two sorted files
- **cp.exe** - copy files and directories
- **cpio.exe** - copy files to and from archives
- **CRLF.EXE** - converts text files between TDOS and UNIX style line terminators
- **csplit.exe** - context or line file splitter
- **curl.exe** - transfer a URL; also has curllite and curltiny
- **cut.exe** - remove sections from each line of files
- **CWS2FWS.EXE** - coverts compressed SWF files to uncompressed
- **CWSDMPI.EXE** - helps your DOS system have access to more RAM
- **d.exe** - lists files
- **date.exe** - print system date and time
- **DCALC.EXE** - perform date calculations
- **DCAT.EXE** - disk cataloger
- **dd.exe** - data copy
- **DETAB.EXE** - replace tabs with spaces in several files
- **df.exe** - report file system disk space usage
- **dhcp.exe** - mTCP DHCP client
- **DIALOG.EXE** - display dialog boxes from shell scripts
- **diff.exe** - compare files or directories
- **diff3.exe** - compare three files, line-by-line
- **dir.exe** - list files and directories
- **dircolors.exe** - color setup for ls
- **DIRECT.EXE** - convert a VOC file to TZX

- **dirname.exe** - strip last component from file name
- **dnstest.exe** - mTCP DNSTest
- **DOS2UX.EXE** - convert text files from DOS to UNIX format
- **DOS4G.EXE** - a 32-bit DOS extender for up to 64MB of RAM
- **DOS4GW.EXE** - a 32-bit DOS extender for up to 64MB of RAM
- **DTREE.EXE** - display tree structure of directories
- **du.exe** - display space each directory takes
- **ECH.EXE** - echo
- **ED.EXE** - line editor
- **EDIT.EXE** - a text-editor from FreeDOS 1.2
- **ENTAB.EXE** - replace spaces with tabs in several files
- **EPINFO.EXE** - extract technical information from digital camera generated files
- **EXPAND.EXE** - expands tabs to blanks
- **expr.exe** - evaluate expressions
- **fgrep.exe** - fixed-string version of grep
- **FILE.EXE** - File type guesser
- **find.exe** - search directory tree for files matching requirements
- **fli2gif.exe** - convert FLI to animated GIF (89a)
- **FMT.EXE** - ASCII text formatter (UNIX)
- **fold.exe** - wrap each input line to fit in specified width
- **FOXCALC.EXE** - a simple, ANSI looking calculator
- **fstat.exe** - get file status
- **ftp.exe** - Internet File Transfer program
- **ftpsrv.exe** - a FTP server
- **gawk[-djg].exe** - pattern scanning and processing language
- **GENOUT.EXE** - generate source code fragments from text files
- **ginstall.exe** - copy files and set attributes
- **GMENU.EXE** - an easy to use text-based menu system
- **gmkdir.exe** - GNU mkdir; create directories
- **grep.exe** - print lines that match patterns
- **grmdir.exe** - GNU rmdir; remove (delete) directories
- **gzip[386].exe** - GNU zip
- **HD.EXE** - display hex dumps of binary files
- **head.exe** - output the first part of files
- **htget.exe** - mTCP HTGet
- **HTMLHELP.EXE** - HTML Help System for FreeDOS
- **httpsrv.exe** - mTCP HTTPServ
- **id3dir.exe** - outputs the standard filename with ID3 tags
- **id3edit2.exe** - add ID3 tags to MP3 files
- **ircjr.exe** - mTCP IRCjr
- **ispell.exe** - spellchecker program
- **JOIN.EXE** - relational join of two files
- **KCS.EXE** - Kansas City Standard/CUTS tape conversion utility
- **L.EXE** - display information about files and directories
- **less.exe** - an easy way to read and search a text file
- **LHA.EXE** - MS-DOS file compression/extraction utility
- **LLSTAT.EXE** - Line Length statistics of a text file
- **ln.exe** - make links between files; not supported on FAT
- **loadsys.exe** - LOADSYS TSR and Device Driver loader/unloader
- **LOCASE.EXE** - change characters in several files to lower case

- **look.exe** - display lines beginning with a given string
- **LOOP.BAT** - Loop 10 times using STRINGS to increment a loop variable
- **ls.exe** - list files and directories
- **m4.exe** - macro processor
- **make.exe** - update files
- **MAKELIST.EXE** - creates an M3U playlist in the current directory
- **man.exe** - an interface to the on-line reference manuals
- **mawk.exe** - pattern scanning and text processing language
- **MCOL.EXE** - arrange text in multiple columns
- **MD5SUM.EXE** - compute and check MD5 message digest
- **MERGE.EXE** - Merge ordered ASCII text files ascending/descending
- **mkdir.exe** - use to create directories
- **mkfifo.exe** - make FIFOs (named pipes)
- **mknod.exe** - make block or character special files
- **MORE.EXE** - use to easily read/search text files
- **MORSE.EXE** - translates text files to MORSE code via PC speaker or can be directed to a WAV or VOC file instead.
- **mv.exe** - use to move files and directories
- **NANO.EXE** - Nano's ANOther editor, inspired by Pico
- **nc.exe** - mTCP Netcat
- **NCONV.EXE** - convert numbers between several bases
- **NL.EXE** - print file contents with line numbers
- **nnsed.exe** - basically, it's sed
- **NODUP.EXE** - remove successive equal lines from text files
- **NOIZE.BAT** - Enter a frequency to play a note
- **OD.EXE** - dump files in octal and other formats
- **OMPT123.EXE** - play popular modular music formats
- **opts.exe** - set default options for Berkeley Utilities
- **PARSE.BAT** - a batch file that parses a filename
- **PASTE.EXE** - merge files as columns of a single file
- **pdfdtach.exe** - extract embedded files from a PDF
- **pdffonts.exe** - analyze a PDF for used fonts
- **pdfimg.exe** - extract images from a PDF
- **pdfinfo.exe** - extract information about a PDF
- **pdftops.exe** - convert a PDF to a PS (PostScript) file
- **pdftotxt.exe** - convert a PDF to a plain-text file
- **PEDIT.EXE** - edit a file based on defaults set by PsychDOS
- **PHOTOPC.EXE** - grab photos taken by certain digital cameras
- **ping.exe** - send ICMP ECHO_REQUEST to network hosts
- **pkttool.exe** - mTCP pkttool
- **PLAYLIST.BAT** - use to create playlists based on file extensions
- **PLAYTZX.EXE** - play TZX file as audio or convert to VOC
- **PR.EXE** - convert text files for printing
- **printarg.exe** - outputs arguments used as a list
- **printenv.exe** - prints environment variables
- **PVIEW.EXE** - view a file based on defaults set by PsychDOS
- **REDERR.EXE** - redirect error output of commands
- **rm.exe** - remove (delete) a file
- **rmdir.exe** remove (delete) a directory
- **SAVEDI.BAT** - use strings to save the current disk and directory
- **sdiff.exe** - side-by-side merge of file differences

- **sed.exe** - stream editor for filtering and transforming text
- **setschar.exe** - set switch character
- **SHELL.BAT** - Shell out to a new copy of COMMAND.COM to increase environment size
- **shred.exe** - overwrite a file to hide its contents, and optionally delete it
- **sleep.exe** - delay for a specified amount of time
- **SLIDES.EXE** - display a slideshow using PictView in the current directory
- **SLOWDOS.COM** - simulate an older CPU by adding software delays
- **slsc.exe** - a modified version of the spreadsheet program sc
- **sntp.exe** - mTCP SNTP client
- **SOLENT.COM** - conversion utility for KCS and SOL-20 users
- **sort.exe** - sort lines of text files
- **spdtest.exe** - mTCP SpeedTest
- **split.exe** - split a file into smaller pieces
- **SSHDOS.EXE** - SSH for DOS (3des or blowfish)
- **STARS.COM** - a side-scrolling, star-travel screensaver
- **STRINGS.COM** - a TSR for adding more functionality to batch scripting
- **strings.exe** - display the strings in files
- **SUM.EXE** - checksum and count the blocks in a file
- **sym.exe** - display symbolic information from object and library files
- **sync.exe** - synchronize cached writes to persistent storage
- **tac.exe** - concatenate and print files in reverse
- **tail.exe** - display the end of a file
- **TAP2TZX.EXE** - convert a TAP to TZX
- **tee.exe** - read from standard input and write to standard output and files
- **telnet.exe** - user interface to the TELNET protocol
- **THROTTLE.EXE** - uses your system hardware to modify the clock speed going to your CPU
- **touch.exe** - change a file's timestamp or size
- **tput.exe** - output a termcap string
- **tr.exe** - translate or delete characters
- **TZX2TAP.EXE** - convert TZX to TAP
- **UNEXPAND.EXE** - compresses tabs and spaces to tabs
- **uniq.exe** - report or omit repeated lines
- **UNTAR.EXE** - unpacks tar-files
- **UNZIP.EXE** - unpacks zip-files
- **UPCASE.EXE** - change characters in several files to upper case
- **UUDEVIEW.EXE** - decoder for uuencoded, xxencoded, Base64 and BinHex encoded data
- **UUENVIEW.EXE** - encoder for uuencoded, xxencoded, Base64 and BinHex
- **UX2DOS.EXE** - convert files from UNIX format to DOS format
- **v.exe** - list files with detailed information
- **vdir.exe** - list directory contents in detail
- **vmode.exe** - graphics mode changer
- **VOC2TZX.EXE** - convert a VOC audio file to TZX
- **wc.exe** - count words and lines
- **WGET.EXE** - the non-interactive network downloader
- **which.exe** - find which version of a program is active

- **WHIPTAIL.EXE** - display dialog boxes from shell scripts
- **xls2csv.exe** - convert older Excel XLS binaries to CSV
- **XSTR.EXE** - extract strings from C programs to implement shared strings
- **ZIP.EXE** - archive files in the ZIP format

Development

software included with PsychDOS

PsychDOS includes mostly interpreter language-like software for developing applications and games.

AS65

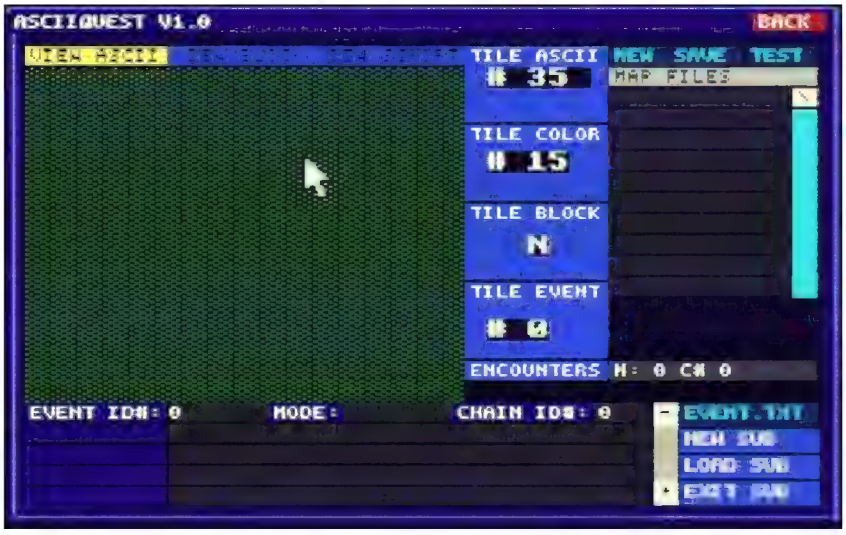
Copyright 2007, Frank A. Kingswood - freely distributable on the net.

AS65-DOS.EXE is an assembler for 6502 and 65SC02 microprocessors. It is a command-line-only program; however, I did not place it in the PROGRAMS\SYSTEM\BIN directory this time as I currently do not know enough about it to just place the EXE with nothing else there. Nevertheless, I was able to get it to create a binary using the supplied example; running that binary, however, is a different matter. Maybe the included PROGRAMS\GAMES\EMULATOR\6502sim\6502SIM.EXE can?

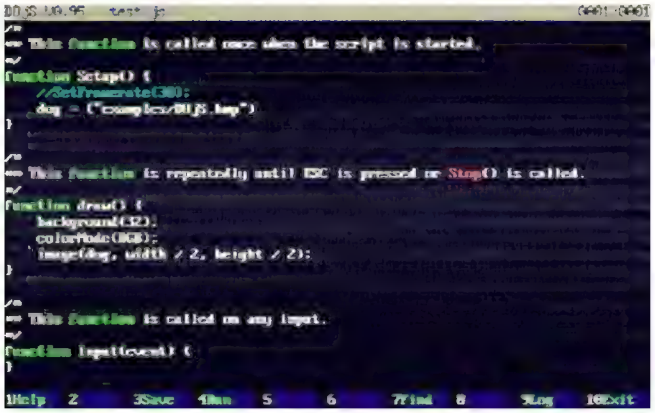
ASCIIQuest

AsciiQuest Editor v1.0 Programmed and maintained by Jace Masula 2005 / QBASIC LAB

This is a program that can help you easily create ASCII games, specifically RPG (Role-Playing Game) and puzzle similar to that of NetHack or Rogue.



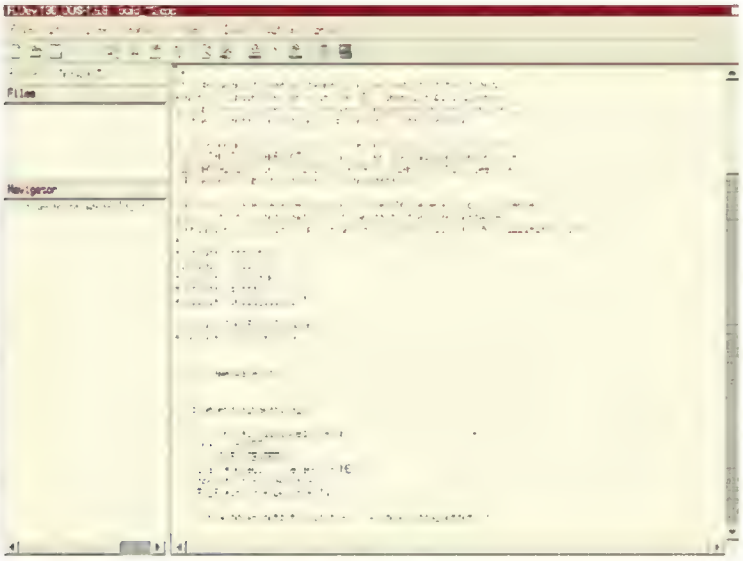
DojS
https://github.com/SuperIlu/DOjS



Do you know how to program using JavaScript? You are in luck as DOjS helps you create JavaScript software but on DOS. This programming environment supports graphics, sound, and various input methods like mouse, keyboard, and joystick. And what makes DOjS also interesting is its p5js compatibility. It even has 3dfx/Glide3 support (but not while running Windows 9x). Please read the DOjS documentation located within PROGRAMS\DEVELOP\DOJS for more help and details.

FlDev
by Georg Potthast

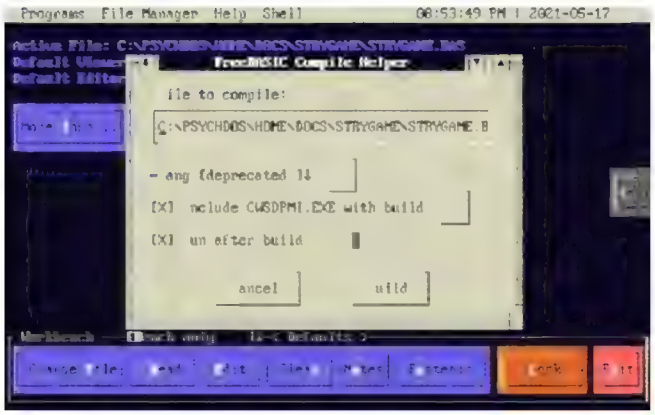
This is an IDE (Integrated Development Environment) for writing C++ programs, especially for creating FLTK-based (Fast Light Toolkit) software. However, PsychDOS does not come with any libraries to help you do this. I decided to include this program mainly for advanced programmers. But if I am to be honest, as one that deals mostly with BASIC, when it comes to older operating systems, you may find it more "laggy" than useful, but I decided to include it anyway.



GNU '83
GNU
STATISTICS
Dare to be free

FreeBASIC

Copyright © 2004-2019 The FreeBASIC development team.

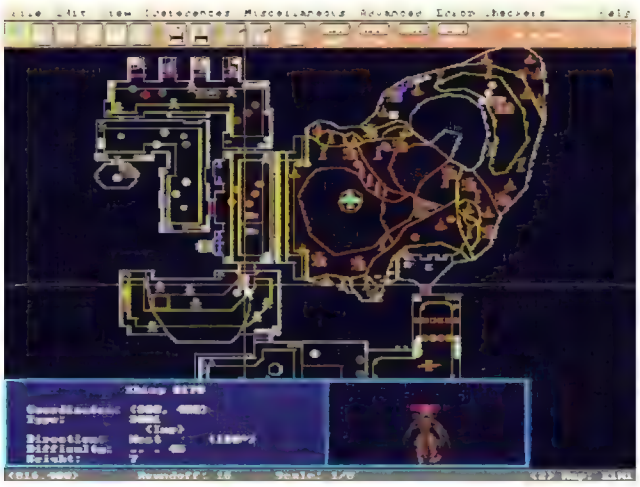


I cannot legally include a copy of QuickBASIC 4.5 (QB45) with PsychDOS. However, FreeBASIC (FBC) can be used to compile both FBC and QB45 scripts if you supply the necessary arguments. However, FBC is a command-line only program that does not include an IDE. So in order to make things easier for those newer to DOS but still want to make software using BASIC, I created a "FreeBASIC Compile Helper". You can either run it on an Active File with a *.BAS extension or input a file location. You then choose which -lang option to use, tell it whether or not to include a copy of CWSDPMI.EXE in the same directory as the compiled program, and whether or not to run the program after the build. And, your build is saved in the same directory as the chosen *.BAS file. You can use PsychDOS's included HOME\DOCS\STRYGAME STRYGAME.BAS file to test this.

IWAD

The PROGRAMS\DEVELOP\IWAD directory includes various tools by various people

Though there is nothing listed beyond the Program menu's Games --> BOOM --> CustOm WADS --> HOWTO.TXT item, PsychDOS includes tools for creating your own WAD (Where's All the Data) files to use with BOOM, a free and open-source DOOM WAD player. This is mainly because most of the included tools are command-line only or have some sort of other complication that makes listing them directly on the Programs menu not feasible.



FreeDOOM Phase 1 Map 1 editing with DMapEdit

And just in case you are scratching your head as to what a WAD is, think of it as if all or most of a game's resources were packed into a single archive-like file in which the main EXE used to run the game loads information from that file instead of from a mess of files within sub-directories. For more information on how WADs work, I recommend visiting https://doom.fandom.com/wiki/WAD.

And if you want to edit WADs on a newer computer, I recommend using a combination of Slade and DeuTex.

Included WAD editing tools (PROGRAMS\DEVELOP\IWAD):

- **CLED v4.88** - A tool for patching or inspecting a DOOM level
- **CMAPTOOL** - A simpleminded utility for making new colormaps
- **CVTTHING.BAT** - Batch file to convert 4001/2 things to 5001/2 things
- **DEU 5.21** - Edit DOOM levels
- **DeuTex 4.4.0** - Extracts WADs for editing and then you can put it back together again as your own WAD
- **DeHackEd** v3.0a - Edit DOOM executables
- **DM2CONV** v3.2 - Converts DOOM/ULTIMATE DOOM/DOOM2/HERETIC levels to run with one of the other games
- **DMapEdit v4.2.2 (beta)** - A map editor for Doom, Doom II, Heretic, Strife, Hexen, and Zdoom.
- **ENDOOMER** - ENDOOM editing utility for DOOM; the message you see after quitting DOOM
- **MAKTRLMP** - Turn a TRANMAP.DAT file made by BOOM
- into a TRANMAP.LMP file that can be included as a custom translucency lump
- **MUSPUT** - Used to put a music source file into a wad
- **STAT** - A program used to inspect the general nature of a wad either before or after playing it, or while creating
- **WARM16** - build the NODES, SSECTORS, SEGS, BLOCKMAP, and REJECT resources from the basic resources that compose a level

Out of all of these tools, though all are special in their own way, the most useful to those that are new to DOOM WAD editing are probably DeuTex for editing sprites, textures, and sounds; DmapEdit for editing maps, ENDOOMER for your end message after quitting your WAD, and WARM16 to optimize everything.

LoveDOS
Copyright © 2017 rxi (https://github.com/rxi/lovedos)

Screenshot is from https://github.com/rxi/lovedos

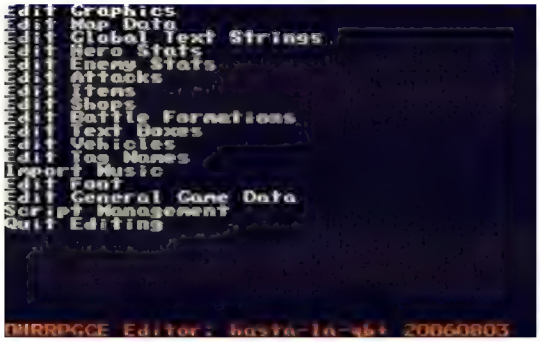
LÖVE is a game engine that uses LUA scripts to create games. Think of LoveDOS as an unofficial DOS version of LÖVE with basic features for creating 2D games. It currently does not support sound or the addAnimation function as of yet, to which at the time of this writing, LoveDOS has not been updated in quite some time. Maybe someone can help them out over at https://github.com/rxi/lovedos?

MegaZeux
MagaZeux 2.70 by Lancer-X

This is a highly cross-platform, game creation program that uses text characters for graphics. Think of it as a free and open source clone of ZZT. You can edit the font so as to create your own characters, edit the color palette, MOD music support, and SAM sound effects. However, it does not create a portable binary to run independently from MegaZeux; meaning, games you create with it will require the MZX270.EXE binary to play.

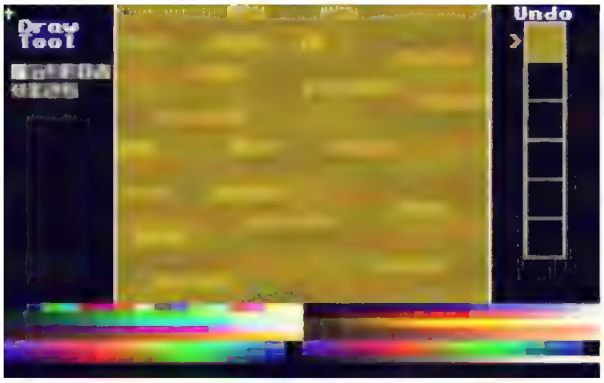
Screenshot is from the game "Caverns of Zeux" by Software Visions

OHRRPGCE
https://rpg.hamsterrepublic.com/ohrrpgce/Main_Page



The "Official Hamster Republic Role Playing Game Construction

Engine" makes it very easy to create role-playing games similar to the early Final Fantasy games and is cross-platform; however, the DOS version has not been updated in quite some time but RPG files created with it, as it does not create portable EXEs, will still run just fine on newer versions, or at least it does on GNU/Linux.



Newer RPG files will not run on the DOS version and so if you want to create a game using this engine but run on new and old, you will have to do it on the DOS version first and then add your extra features later on a more modern system; just something to consider. But as a quick word of caution, plot scripting is not easy. If you are not much of an artist, you can get freely redistributable resources over at https://opengameart.org.

Text-World

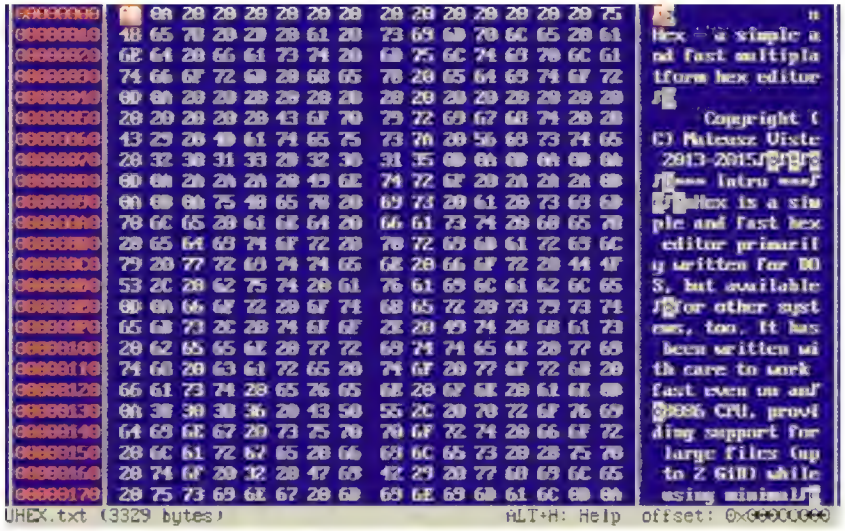
T E X T - W O R L D Version 1.2 by White Divine

Yay! Another text-based game creator... Yeah. I know. But, this one actually lets you compile portable EXEs and is much more similar to an engine for creating text adventures like the ones made by Infocom, such as Zork. In other words, if you have a story to tell but want it to be immersive, Text-World is a good choice.

uHex

Copyright (C) Mateusz Viste 2013-2015

This is a hex editor that requires an Active File to be selected with the "Globally" option enabled in the Workbench. You should really only use this program for doing legal "hacks" on already compiled binary files.



FREEBASIC BEGINNERS TUTORIAL

BY THEOUTERLINUX

Have you ever wanted to create a point-and-click type game? Perhaps you have experience with QuickBasic 4.5, also know as "QB45" for the cool kids, but you may have noticed a few "headaches" along the way that have prevented you from achieving this goal. The obvious requirements for a point-and-click game are graphics and mouse. Outside of the BLOAD function, QB45 does not make this easy and you may need to figure out how to use QB libraries for the mouse and graphics. Fortunately, there exists a free and open-source, cross-platform project called FreeBASIC.

FreeBASIC is not just its own flavor of BASIC, but also allows people to compile QB45 scripts. FreeBASIC also still maintains a DOS version and is included with PsychDOS, to which has a Programs menu option for quickly compiling and previewing your software. Any text editor will work just fine. And one of the biggest advantages of using FreeBASIC over QB45 is that thanks to CWSDPMI, you are not as limited regarding RAM at compile time.

In this tutorial, we are not going to make a complete game, but hopefully get you close enough to get the idea. I will also be using PsychDOS's included

EDITV program, which is a text editor with a few fancy things, such as a way to add your own execution scripts. EDITV is also the out-of-the-box default IDE editor for PsychDOS, even though it really does not have much going for it that would suggest that is how it should be used.

Now that you have your chosen editor opened, let us start typing some stuff:

```
'Title: Story Game
'Author: TheOuterLinux (https://theouterlinux.gitlab.io)
'Purpose: A simple example of loading a BMPv2 and then
'         designating an area of that BMPv2 to be clickable.
```

Notice how each line starts with an apostrophe? Do you also see how each line looks more like a sentence than actual code? This is because lines like this are only meant to be used to add comments and notes to your program. Let us say that you have a lot of code needing to be typed but will take several days, weeks, months, etc. to finish. You can leave yourself notes this way if you ever need to take a break and come back but do not want to forget what lines do what. It is incredibly annoying to spend several days figuring out how to get a program to do something but then later cannot figure out how to customize code for another purpose. Of course, you should also write these sorts of things down as well, but if you are sharing the code with others, comments and notes help. Another way to add comments to a BASIC program is to use the REM statement, which can also be used in batch (.BAT) files and is commonly found in other BASIC variants like for Commodore and BBC BASIC.

Now let us add some more code...

```
CONST LEFTMOUSE = 1
CONST MIDDLEMOUSE = 4
CONST RIGHTMOUSE = 2
CONST SHOWMOUSE = 0
CONST HIDEMOUSE = 1
```

These are variables. The CONST part stands for "constant" and therefore these are constant variables, meaning FreeBASIC will know at compile time that the values assigned to the variables will never change. A quick warning, FreeBASIC is incredibly picking in comparison to QB45 but does a much better job when printing error messages if a compile fails.

These variables are also telling FreeBASIC, or will be, that the left mouse button is "1", that the middle mouse button is "4", that the right mouse button is "2", and that the show or hide mouse variables are to be represented as "0" and "1." And unless your mouse is just plain weird, the values for left, middle, and right mouse buttons should be these values when FreeBASIC detects that you have used one of them. But what else do you notice? We have not actual told FreeBASIC to load anything in regards to a mouse at all. That is because unlike QB45, FreeBASIC does this for you automatically. Yay!

Typing some more stuff...

```
'In FreeBASIC, you have to use DIM for every little variable
'as it will not assume things like QuickBasic does.

DIM MOUSE_X AS INTEGER
DIM MOUSE_Y AS INTEGER
DIM MOUSEBUTTON AS INTEGER
DIM CANEXIT AS INTEGER
DIM K AS STRING

DIM image(64004) AS UBYTE
DIM PAUSE AS STRING
```

Having to DIM everything that is not a CONST is very annoying, especially when this is not necessary in QB45 or VBDOS. Matter of fact, you do not have to DIM variables at all in QB45 as long as in your code you use something like MOUSE_X% = [integer] in which the "%" at the end tells QB45 that variable is an integer. Strings in QB45 can also just be K$ in which the "$" part at the end refers to "string."

But what about the DIM IMAGE(64004) AS UBYTE part? This tells FreeBASIC we want a variable called "IMAGE" that is an 8-bit, unsigned integral data type that is "64004" bytes in size. But depending on your image, your size may vary.

Adding some SUBs...

```
'In FreeBasic, you have to declare SUBs

DECLARE SUB GAMESTART_LEFTCLICK
DECLARE SUB GAMESTART_MIDDLECLICK
DECLARE SUB GAMESTART_RIGHTCLICK
```

What the heck is a SUB? A SUB is short for "subroutine." Imagine if you could break-up your code into multiple sections but have those sections run at any point in time as opposed to having to type or copy-paste a bunch of code all over again. This saves your sanity, program size, and RAM. In the above example code, we are basically letting FreeBASIC know that we plan on having three SUBs in which one runs when the left, middle, or right mouse button is clicked. But, unlike QB45, because we are using a plain-text editor, typing these lines do not result in opening another blank canvas to write code for these SUBs. In other words, we have to move on a bit but we will get back to them soon, particularly when we get near the end of the script, a place in which QB45 also likes to place them if you look at the entire script at once.

Setting the screen mode...

```
SCREEN 13 'Screen 13 gives us 320x200 screen with 256 colors
```

Would it not be great if FreeBASIC could just tell what sort of hardware you have for you? Too bad and for this instance, we are using Screen 13 which tells the program that we want to to have access to 256 colors with the trade-off being a resolution of 320x200.

Now to let the program know we want to load an image...

```
BLOAD "IMAGES\TITLE.BMP", VARPTR(image(0)) 'Load BMPv2 image
PUT (0, 0), image 'Place image at coordinates 0,0 (top left corner)
```

BLOAD is used to load a bitmap and in the case of FreeBASIC for DOS, we need to use a much older bitmap format, such as BMP version 2 or earlier, to which the included GrafX2 or PictView's conversion tools can be used. We are also telling BLOAD to store this image as IMAGE(0). I am not going into detail about the VARPTR statement, but it is basically being used this way to place the bitmap image as a variable, aka into memory.

The PUT statement is used to place this bitmap image at the top-left corner in which (0,0) is (x,y). X's values increase from left to right and Y's values increase from top to bottom. In other words, using the SCREEN 13 mode, the top-left corner is (0,0), the top-right corner is (320,0), the bottom-left corner is (0,200), and the bottom-right corner is (320,200). But for ease of use, our TITLE.BMP is 320x200 in size and placed in the top-left corner.

Lets have the program play a short jingle after it displays our title screen...

```
SHELL "SFX\LXVOX\LXVOX.COM SFX\TITLE.WAV"
```

What this line does is tells the DOS shell to use the program LXVOX to play TITLE.WAV. You can use SHELL statements in both FreeBASIC and QB45 in times of which you cannot figure out how to script something and it would just be easier to run a tool someone else created; however, because DOS can only run one program at a time, doing this may have some weird screen affects, to which is technically the case here as the text indicating that the audio is playing is displayed near the top, assuming that is were the cursor is when you start this program.

Next, we add another variable...

```
CANEXIT = 1
```

This is because we are about to create what is called a "DO-LOOP" in which something runs code within a section of the script over and and over again, *looping* through each of the lines until a condition is met.

Here is our DO-LOOP...

```
DO WHILE CANEXIT <> 0
  K = INKEY$
  GETMOUSE MOUSE_X, MOUSE_Y, , MOUSEBUTTON
  IF MOUSE_X > 85 AND MOUSE_X < 221 AND MOUSE_Y > 99 AND MOUSE_Y < 138 THEN
    IF MOUSEBUTTON AND LEFTMOUSE THEN CANEXIT = 0 : GAMESTART_LEFTCLICK
    IF MOUSEBUTTON AND MIDDLEMOUSE THEN CANEXIT = 0 : GAMESTART_MIDDLECLICK
    IF MOUSEBUTTON AND RIGHTMOUSE THEN CANEXIT = 0 : GAMESTART_RIGHTCLICK
  END IF
  IF K = CHR$(27) THEN CANEXIT = 0
LOOP
```

This loop is used so that the program can constantly keep an eye on where the mouse cursor is. And because the buttons in our TITLE.BMP image are all within the graphic itself, IF THEN with MOUSE_X and MOUSE_Y positions are used to determine the clickable areas. The INKEY$ is a built-in function that grabs keyboard presses. The CHR$(27) part represents the Esc key. And just as a quick tip, let us say you need to print text and that text needs to include something in quotes, you would then use something like PRINT "How

are you doing"+CHR$(34)+NAME$+CHR$(34)+".", in which the CHR$(34) represents double-quotes and the NAME$ is a string variable that your program may have asked for earlier.

Anyway, moving on to our subroutines...

```
'Run what is in this SUB if left-clicked the button.
SUB GAMESTART_LEFTCLICK
    CLS
    PRINT "Game has started (pretend)."
    PRINT "When button was clicked, left-mouse was used."
    INPUT "Press ENTER to Exit."; PAUSE
END SUB

'Run what is in this SUB if middle-clicked the button.
SUB GAMESTART_MIDDLECLICK
    CANEXIT = 0
    CLS
    PRINT "Game has started (pretend)."
    PRINT "When button was clicked, middle-mouse was used."
    INPUT "Press ENTER to Exit."; PAUSE
END SUB

'Run what is in this SUB if right-clicked the button.
SUB GAMESTART_RIGHTCLICK
    CANEXIT = 0
    CLS
    PRINT "Game has started (pretend)."
    PRINT "When button was clicked, right-mouse was used."
    INPUT "Press ENTER to Exit."; PAUSE
END SUB
```

Because our example is not to be complex at all, when the mouse left-clicks the area between x and y coordinates (85,99) and (221,138), aka our "Click to start" button, the GAME_LEFTCLICK subroutine is then ran, to which only prints some text indicating that your game has started (but not really) and what part of the mouse was used. The subroutines for middle-click and right-click behave the same way. The INPUT statement is utilized in this manner so as to have the program pause so that you can read what happened; otherwise, the program would just exit you back to the SHELL or PsychDOS if utilizing the FreeBASIC option in the Program menu's Development section.

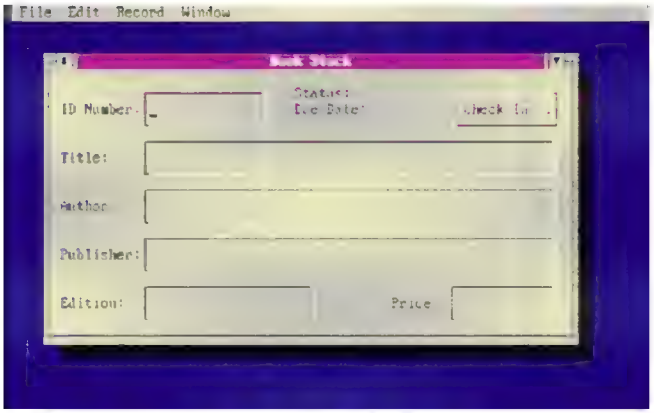
If using PsychDOS, please see included copy of this point-and-click example within the HOME\DOCS\STRYGAME directory.

Education

software included with PsychDOS

BookLook

Visual Basic for MS-DOS BookLook ISAM Demo Program



This was an example program created by Microsoft to use for learning how to create programs with Visual Basic for DOS version 1.0 (VBDOS). BookLook can be used for starting a mini public library of sorts. And yes, it is redistributable, whether edited or not, as long as the user understands that Microsoft remains blameless if it causes the user issues. I did not do much to it other than "gut-out" all but one (I tried) of the listed example library patrons. You may not find much use for it other than perhaps as a book manager, but I tend to take an "it is better to have and not need than to need and not have" approach when it comes to anything regarding the PsychOS Project.

Convert Units

CONVERT UNITS © Copyright 1990, 1991. All rights reserved.
David Lovelock.

Are you good at math but terrible at memorizing measurements? This program should be able to help you in most cases. This program covers conversions regarding acceleration, angles, angular velocity, area, chile peppers, energy, flow, force, length, mass, temperature, time, velocity, and volume.

Crossword Helper
by Dale Harris. Copyright 1999

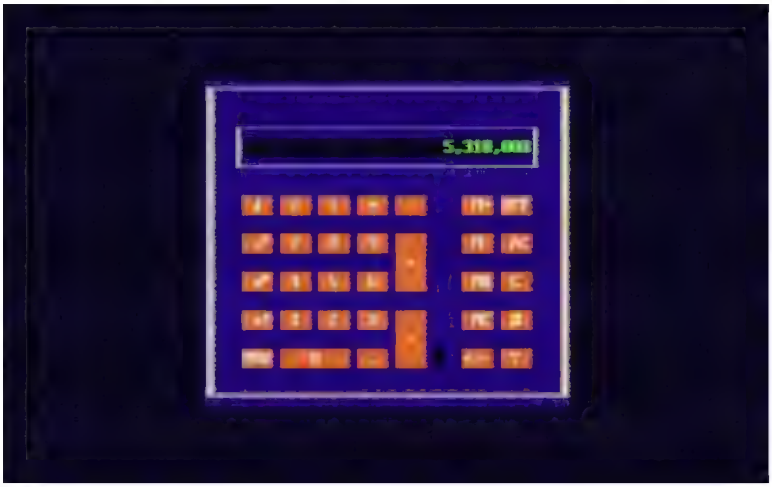
Need help solving a crossword puzzle? This program may be able to help you solve crosswords between the lengths of two to twenty characters, as long as the word is in the PROGRAMS\EDUCATE\wordfind\WORDLEN.DAT file.

Cypher Solver
by Dale Harris. Copyright 1995

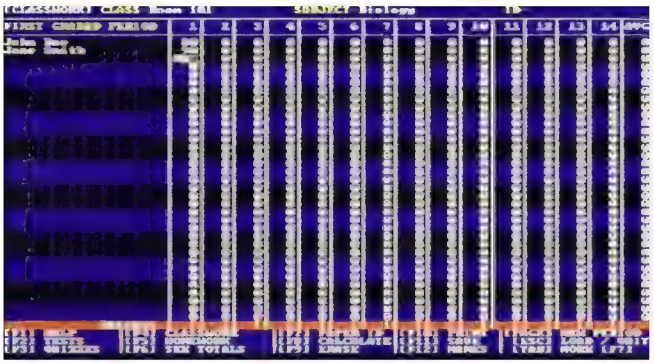
A cypher solving game. However, if we are being honest, this is not the easiest thing in the word to use. You will probably want to read the PROGRAMS\EDUCATE\cypher\CYPHER.DOC file before using.

FoxCalc
by Mateusz Viste "Fox". Copyright 2007

This is a calculator with a few extra functions like X^n and PC speaker sound that can be switched off. What makes having the X^n option useful, is that let us say you need more than just finding the square root ($\sqrt{X}$) of something, such as a cube root ($\sqrt[3]{X}$). All you then need to do is use $X^{(1/3)}$, aka 0.3333... [Un?]fortunately, you will probably not be doing much in the way of trigonometry with FoxCalc as there are no SIN/COS/TAN buttons.



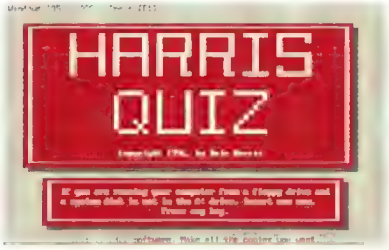
Gradebook
by Dale Harris



If you are a K-12 teacher or an institution with four grading periods and still want to use DOS to keep-up with your student's grades, though I doubt your boss will let you, Gradebook is an excellent option. However, get used to using the keyboard's function and tab keys. You can manage grades of students regarding custom subjects and the typical types of graded materials such as tests, quizzes, classwork, and homework. Gradebook also has a Parent Conference Mode for showing grades to parents, while also keeping things password protected; no need to worry as much if you need to walk away from the computer for a minute, not that any parent would try to change their kids grades.... Anyway, if your boss is also the sort that likes having hard copies around, Gradebook has printing capabilities.

Harris T&Q
by Dale Harris. Copyright 1996

Use this suite of software to create electronic tests and



quizzes. Looking at the PROGRAMS\EDUCATE\test directory, the TEST.EXE program helps you create questions and then print them, or create computer quizzes.

The QUIZ.EXE is used to run the computer quizzes made by TEST.EXE. The QREADER.EXE program is for when questions were created using a word processor and need to be formatted for use with QUIZ.EXE. I would like to point out though, you may need to do some work in regards to getting this software working properly. Worse case, if PsychDOS is not setup correctly for them, you may be able to utilize the file manager (default is DOS Navigator 1.51). Though, I may be the "pot calling the kettle black," when DOS software developers assume that everyone is installing everything on their computer as C:\PRGFOLDR;

problems can happen when using a suite of tools. This is why *.INI files and/or PATHs exist; just saying.

Word Search
by Dale Harris

Use this program to create a word search puzzle in which instead of just finding a list words, you must first solve the clue and then look for the word buried among all of the letters. However, you can leave the clue section empty if you just want a much simpler word search puzzle. You will either need a working printer to use this program or perhaps take a screen shot using PsychDOS's included Screen Thief screen capture program with further editing using GrafX2 and/or embedding the image into FlWriter.

Games

and emulators included with PsychDOS

PsychDOS does not include any games except FreeDOOM Phase 1 and Phase 2, which are freely redistributable WADs for use with BOOM, a free and open-source DOOM engine. I wish I could include more games, but I figured that most people already have the same freeware and shareware games installed that I would have included if storage space were not a concern. Worse case, use the Program menu's GAMES --> CustOm option to add what you have.

6502sim

Copyright 1996 by Daniel Boris (dboris@home.com)

I am honestly not sure how to use this program or if it would be useful to anyone, but I have have included it none the less as a way to help 6502 assembly language programmers have a 6502 simulator.

BOOM

Version 2.02 By TeamTNT

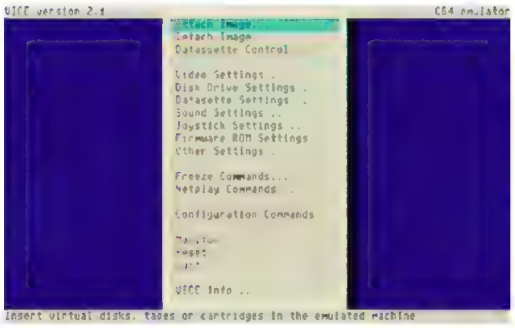
A lot of you PWAD (patch WAD) fanatics are very familiar with this program; but if you are not, BOOM is a free and open-source DOOM engine for either playing original DOOM WAD files or for playing PWADs, aka edited IWADs (Internal WAD), to which PsychDOS includes tools for helping you do so within the PROGRAMS\DEVELOP\IWAD directory. I also made sure to include copies of the freely redistributable FreeDOOM 1 and FreeDOOM 2 WADs if you would like to have something to play or mess around with for WAD editing. If you would like help in regards to creating custom WAD files, see the Program menu's Games --> BOOM --> CustOm WADS --> HOWTO.TXT item to help get you started.

NEED
EMULATORS?

DOSVICE

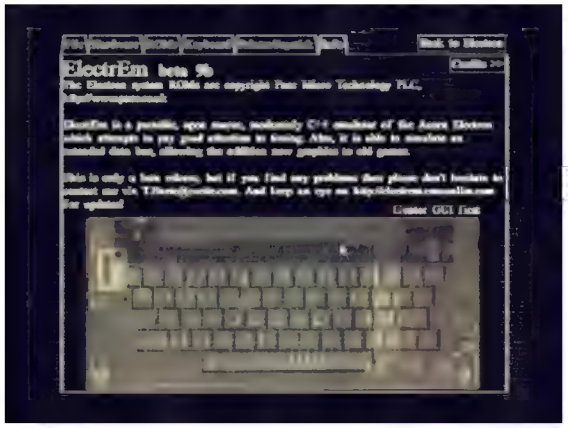
Version 2.1; see PROGRAMS\GAMES\EMULATOR\dosvice\README

This is a free and open-source Commodore emulator, more famously known as just "VICE" (the Versatile Commodore Emulator). This build includes emulation for C64, C128, VIC-20, PET, Plus/4, and CBM (Commodore Business Machines). I highly recommend that you only run this emulator on a Pentium or newer.



ElectrEm

See PROGRAMS\GAMES\EMULATOR\ElectrEm\GENERAL.TXT



This is another free and open-source program for emulating the Acorn Electron, a 32K BBC microcomputer that utilizes BBC BASIC for programming and operating the system. This emulator has the ability to load UEF (Unified Emulator Format) files, save UEF files, and load WAV files. WAV? Well, if you are not familiar with these older systems, for a time, data was loaded and saved using standard cassette tapes before they were mostly replaced by the much faster floppy disc. To which, unfortunately, ElectrEm does not support SSD files, which is the format associated with floppy disc images for BBC microcomputer emulators.

Frotz

Written by Stefan Jokisch in 1995-7

And yet another free and open-source program (what a world we live in)! This program is used to play Infocom text adventure games like Zork.

KCS08

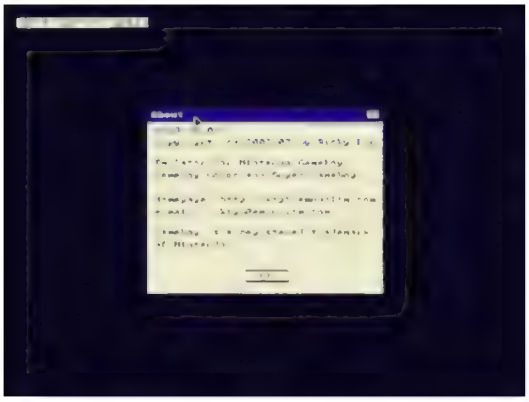
For a time, the Kansas City Standard was one of the most popular formats used for cassette tape data storage. The software would be stored as audio in which '0' bit is represented as 4 cycles of 1200Hz and a '1' bit as 8 cycles of 2400Hz. KCS was often used by microcomputer manufacturers like Acorn, Casio, Exidy (Sorcerer), Ohio Scientific, and Processor Technology (Sol-20). The KCS08 command-line program allows you to convert KCS or CUTS (Processor Technology Computer Users Tape Standard) formats to a program file or even the other way around, so that perhaps you may be able to BASICly script something awesome and then place your software or game on a casette tape. You may also be able to use one of PsychDOS's audio playing tools to playback the created WAV, VOC or RAW audio file for use with older systems if connected properly instead of wasting tapes, though most people these days use their smart phones for this via on-line tools like PlayUEF or 8bitkick.

KGEN98

Written by Steve Snake, Kode and Muzak Ltd, Jan-Feb/May 1998

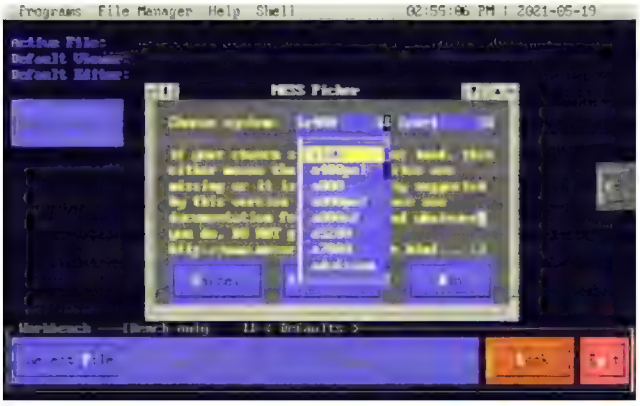
Remember Sonic? Shinobi? Golden Axe? Have at it with this easy to use SEGA Genesis/MegaDrive emulator with a really nice interface. But having that said, like all DOS software with nice interfaces, you will at least need a Pentium in order to run it properly. And though this should go without saying, but do not expect all of your games to work on an emulator from 1998.

KiGB
Version 2.03 by Ricky Liu



This is a program with an easy to use graphical interface for emulating the Game Boy, Game Boy Color, and Super Game Boy. Word of caution though, if the computer is not good enough to run Windows 95, this emulator will not run very well and the Super Game Game Boy emulation was not completed. The DOS version also does not have Game Link support. The cool thing about it though is it does support save states if the game itself has no save function and has GameGenie and GameShark support. The developers also claim to have tested over 6000 games and demos from the GoodGBX V2.02 ROM set. Screen dumps are saved as PCX files.

MESS
Copyright (C) 1997-2000 by Nicola Salmoria and The MAME Team

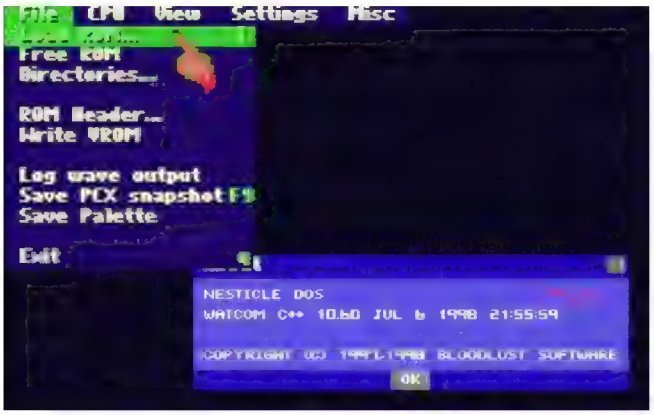


This is an "all-in-one" emulator for various systems, much like MAME but for home computers and consoles instead of arcade. Most of its LARGE number of supported systems only work if you have the required ROM files, which of course are not included for legal reasons. However, emulation for systems like the classic Nintendo Entertainment System (NES) and Sega consoles do not need any ROMs other than the games in order to use. MESS is capable of emulating various Atari systems, older Apple systems, Commodore, Amstrad, Sega, NES, Laser, TI99, MSX, Spectrum, and quite a few others.

I did manage to create a quick-menu-like interface for use with MESS on PsychDOS as long as the Active File is a supported format. You will need to use the Program menu's GAMES → Emulation → MESS → Install option first as I can not legally include an already installed copy but afterwards, run the Launch item and you are presented with PsychDOS's "MESS Picker" window for selecting a system and then the device name, such as "cart" for cartridge, "cass" for cassette, "flop" for floppy, "hard" for hard disk image, "snap" for snapshot, and "quik" for quickload. However, based on the assumed type of

file, MESS Picker can do most of this work for you. Worse case scenario, you should be able to use the TAB key to access MESS's graphical menu at any time.

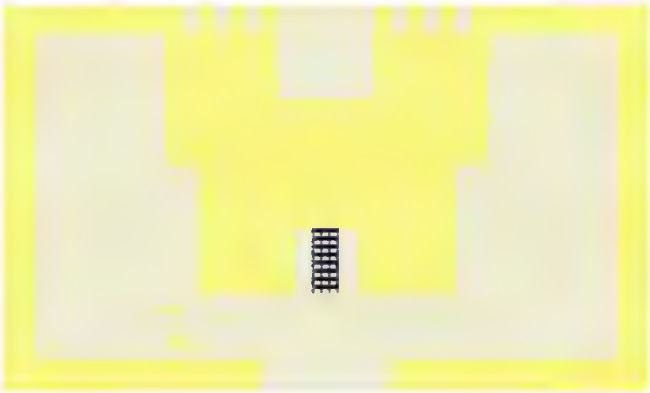
NESticle
by Bloodlust Software



This is an emulator for (*sarcastic drum roll*) the Nintendo Entertainment System, though of course I guess the name sort of gives it away. It has support for multiple save states, joystick, an easy to use graphical interface, full-screen 256x224 VGA mode, and you can save PCX snapshots. NESticle also has extra unique features like editable pattern tables, loggable Wave output, editable color palette, and iNES single file cart format support. However, there is no lightgun support and you may need an i486 or Pentium computer in order to run this emulator properly.

PCAE
by John Dullea

This is a program for emulating the Atari 2600, which oddly enough the aforementioned MESS emulator does not support. It does not have an interface and so if you are to use it with the PsychDOS desktop environment, you will need to select an appropriate Atari 2600 binary file as the Active File, switch the Workbench mode to "Globally," and then use the Program menu's `GAMES --> Emultion --> PCAE` item.



SOLENT
http://dxforth.mirrors.minimaltype.com/#solent

SOLENT is a command-line conversion utility for Kansas City Standard (see KCS08 section above) and Sol-20 users. It can be used to convert KCS tape binary files to ENT hex format for a Sol-20 machine or the Solace emulator (not included).

TZX Utilities
by Tomaz Kac

This is a collection of TZX-related tools pertaining to the Commodore 64 (C64) and ZX Spectrum (Speccy). These tools are command-line-only and so you must be in the SHELL in order to use; but as long as you started PsychDOS correctly with the RUNME.BAT file, you should be able to just use these tools anywhere. You can find them and documentation inside of the PROGRAMS\SYSTEM\BIN directory.

- **64TAPVOC.EXE** - C64 TAP to VOC converter
- **64TZXTAP.EXE** - TZX to C64 TAP converter
- **64VOCTAP.EXE** - VOC to C64 TAP converter
- **64VOCTZX.EXE** - VOC or C64 TAP to TZX converter
- **TAP2TZX.EXE** - convert a TAP to TZX
- **TZX2TAP.EXE** - convert TZX to TAP

Vision-8
Copyright © 1997 Marcel de Kogel

This is a CHIP8 emulator. CHIP8 was an interpreter programming language used on a few micro-computers -- such as the Cosmac VIP and the Telmac 1800, during the mid to late 1970's. But regardless, in order to use this emulator, you will need a 286 or better microprocessor and a CGA video card. And because this program is command-line only and requires a file-path, if using PsychDOS, you will need to select a file with the *.CH8 extension as the Active File with the Workbench set to "Globally" before you can run the CHIP8 program with Vision-8. I recommend taking a look at https://github.com/dmatlack/chip8/tree/master/roms for games to try.

ZSNES
Copyright © ZSNES Team & ZSNES Documentation Team

Out of all of the included emulators, perhaps DOSVICE (VICE for DOS), NESticle, and ZSNES are the most familiar. And guess what? This version of ZSNES for DOS behaves exactly the same way as you have probably seen on more modern systems like Windows or GNU/Linux. However, I would not even try to run this emulator on anything older than a Pentium and Netplay -- multiplayer via the Local Area Network, for this

version was "disabled for the indefinite future," according to the included and on-line documentation.

Graphics

software included with PsychDOS

ANSiMat

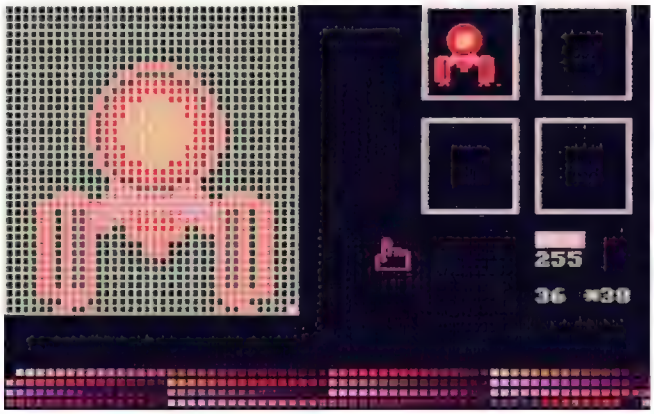
ANSiMat v0.93 Copyright © Mateusz Viste 2010

This is a free and open-source command-line program for displaying ANSI art that can also be used to convert ANSI files to BMP, PCX, PPM, TGA, TIF, and even a FLC (FLiC) animation. And like most of the command-line programs included with PsychDOS, if you started the desktop environment properly, you can run it from anywhere. However, if this does not work well for you, worse case scenario, your DOS system probably has the TYPE command that could possibly be used to display your ANSI art file.

Canvas

Canvas v1.1 Copyright © Samuel Igwe, Paladine Software 1998

This is a sprite image creator that was developed by Samual Igwe in 1998 for his own personal use but was then later made available to the public. And what is really cool about this program is when you save a Sprite Data File (*.SDF), the format outputs in a similar way that one would use when creating a DATA array for a BASIC program that displays graphics. This program also can load a PCX files, edit palette files (*.PAL), and save the image as a *.CS file for use with C, C++, Pascal, and assembly language programs.



However, when you open it for the first time, you may notice that the colors are a bit "warm." You can fix this by switching to the Sprite Editor mode using F1's menu and then open the CANVAS.PAL color palette file. I have no idea why it behaves this way and it does not save any previous

information to keep from having to do it again. You can also change the palette colors by loading a *.PCX file and then switch back to the Sprite Editor mode. You can save this color palette for later use by switching to the Palette Editor mode and then save it; Canvas adds the file extension for you depending on what mode you are in. And if you do not like Canvas's Palette Editor, you can use the version of GrafX2 that is included with PsychDOS to save a *.PAL file. Extra palettes by TheOuterLinux are included.

FontEdit

FontEdit 2.0 © Copyright 2001-2003 by Sterling Christensen

As the name hopefully implies, this is a bitmap font editor/creator; and oddly enough, I have actually managed to come across a few of them for DOS but so far, this is not only the best one I have seen for a DOS system but it is actually really easy to use. However, the font formats that are produced are geared more towards QBasic programmers, even though modern systems like GNU/Linux can use the *.FON format made by FontEdit just fine.

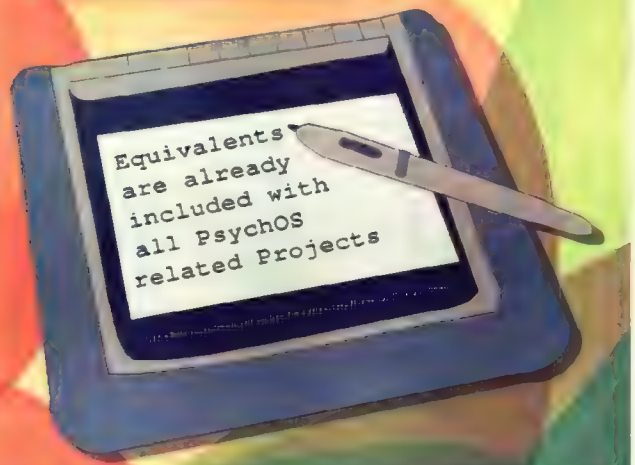
Supported formats include:

- DirectQB Font (*.FNT)
- Future.Library Font (*.FNT)
- Jfont font (*.DAT)
- Krusty Font (*.QBF)
- MultiSpace Font (*.FON)
- StringFont (*.SFF)
- SVGAQB (*.FNT)
- Windows Font Resource (*.FON)
- Windows Resource (*.DLL, *.EXE)

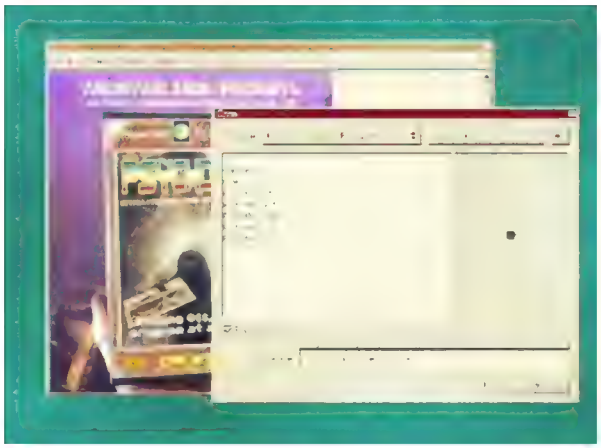
https://theouterlinux.gitlab.io/Downloads/GIMPColorPalettes.zip

STOP

fretting over what color palettes to use for your next 256-color or less project. Why waste time figuring out colors used by older systems like the C64, Apple II, CGA, NES, SNES, SEGA, MSX, and etc. when this has already been done for you? Check out the latest and greatest GIMP color palettes based on older systems and anime by TheOuterLinux



FlView Image Viewer
2012 Georg Potthast



PsychDOS already comes with a fantastic image viewer called "PictView," but this image viewer has the advantage of loading JPEG and PNG images, especially large ones, much faster than PictView. However, you will probably want a mid 1990s computer to run it; this is mostly true with all of the included FLTK-based programs included with PsychDOS.

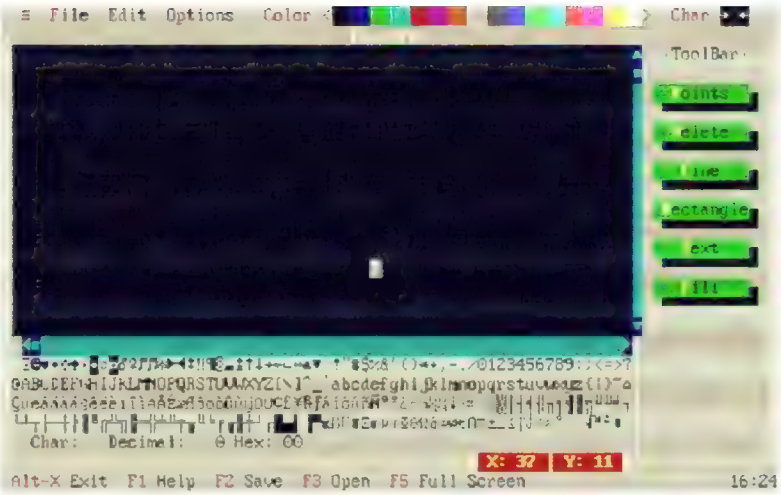
GrafX2
GrafX2 2.00 β96.5% was managed by GUILLAUME DORME (Robinson) and KARL MARITAUD (X-Man)

This version of GrafX2 was a freeware paint program that is still being maintained to this day but as a free and open-source project, even though this is the last known DOS build, or at least as far as I am aware. The newer versions have animation, layer, text, and LUA script support, but this one does not, even though a text button exists in the menu. However, as far as free 256-color paint programs for DOS go, GrafX2 is hard to beat.

Speaking of layers, a quick tip that I can give you is to use "trash" colors to do rough sketches and then go back over them with the colors you actually want to keep. Afterwards, change the trash colors in the palette editor to your "erase" color, i.e. "black" in most cases. Hopefully that makes sense. You can also use a similar method to embed secret messages or graphics in your drawings if saving as a GIF since the colors are indexed. Your friends can just change the "invisible" colors to something else to see the hidden message or graphics.

PaintPro
COPYRIGHT © CRYOGEN - 1997

Do you have a BBS (Bulletin Board System) or ever wanted to start one but would like to have some ANSI graphics to go along with it? PaintPro makes creating ANSI graphics (with ESC-ape characters) very easy. Funny how some of the coolest software for DOS was created while people were still in school.



PhotoPC
Copyright © 1997,1998 Eugene G. Crosser
Copyright © 1998 Bruce D. Lightner
(DOS/Windows support)

This is a library and command-line front-end for maintaining older digital cameras based on the Fujitsu chip-set and Sierra Imaging firmware. The documentation also claims to have it working with some Agfa, Epson, Olymous, Sanyo, and Nikon cameras, but do not count on it working on anything made after the late 1990s. You can find more information on this software included with PsychDOS by taking a look at the HTM files within PROGRAMS\SYSTEM\BIN\PhotoPC or by clicking the Program menu's Graphics --> PhotoPC option.

PictView
Copyright © 1994-2000 by Jan Patera
Copyright © 1996-2000 by Dement - quantization

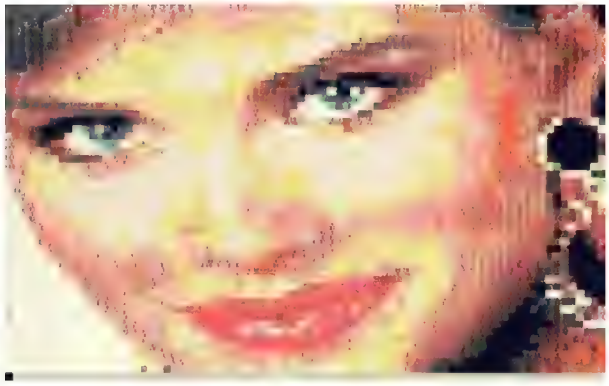
This amazing program can view all kinds of image file formats, including JPEG and PNG, as well as be used like a converter, re-sizer, and color count changer for certain formats. It also supports a very wide range of video adapters and can handle images as large as 32000 pixels wide and 5200 lines high, but I would not recommend pushing the limits. Matter of fact, if you do want to use it to view JPEG or PNG files with typical sizes like 1920x1080, you are much better off trying to use the included copy of FlView instead; otherwise, you will be waiting a while for the image to load. But, if the image was created using

something like GrafX2, such as GIF or PCX, it will handle it without issue.

And just in case, I included a zipped copy of "PVLDR," a PictView loader for use with the IBM ThinkPad 770 due to issues regarding 8x14 vs 8x16 font data. However, do not use it unless you absolutely have to.

I also created a program to be used along with PictView called "SLIDES." This allows you to either start a slideshow from the same directory as the Active File or you can start it from any directory if you started the shell while in PsychDOS.

POSTER
Copyright © 1995 by FVDL



PsychDOS's included PaintPro program is very useful for creating ANSI art; however, what if you are sort of lazy -- we all have our days, and would prefer to use a more modern paint program and then convert your BMP, GIF, or PCX (and technically more) to an ANSI art image instead, POSTER is a great choice. You can add more file format support by letting it know about external viewers -- such as PictView, because if the image can be rendered on the screen, then POSTER can then convert it to ANSI.

Multimedia

software included with PsychDOS

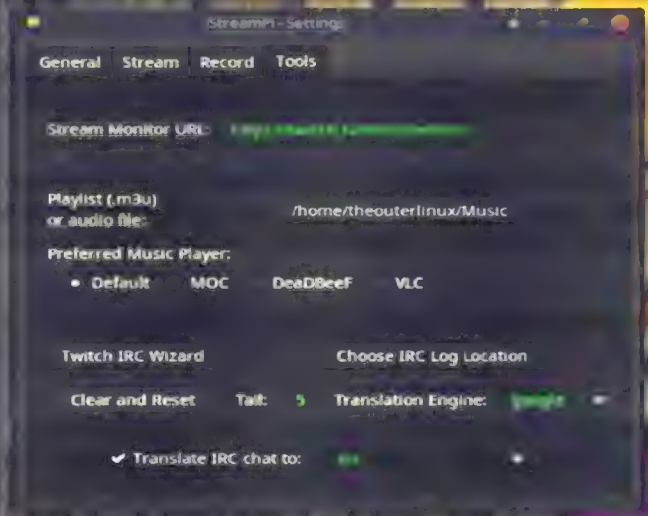
AnimatorAKA
Copyright © 1989-1994, Jim Kent All rights reserved.

Have you ever wanted to create an animation on DOS? AnimatorAKA, also known as just "Animator," "Autodesk Animator," "Video Paint," or just "V," is a 320x256, 256-colored paint and animation program. Files are saved as either FLI for animations or GIF (GIF87a) for single images as this program does not create animated GIFs (GIF89a). This program also comes with a command-line player for FLI files, even though the FLILIB player is much better. And if you need a converter for formats like the Amiga moving picture format (*.ANI, *.RIF), MacPaint (*.MAC), Atari Neochrome (*.NEO), Atari Degas (*.PI?), Atari Degas Elite (*.PC?), ZSoft Paintbrush Bitmap (*.PCX), and AtariST animation file (Cyber Paint's *.SEQ format), AnimatorAKA comes with a program called CROP just for this.

One of the authors by the name of "Jim Kent" kept the copyrights to the source code. Also, Autodesk Inc.'s trademarks on "Autodesk Animator" and "Animator Pro" are expired. The source code is available under the BSD license.

DOSMid
Copyright © 2014-2018 Mateusz Viste, All rights reserved.

This program is a simple MIDI player that must either have an Active File selected if using PsychDOS or a MID file as argument if in the shell. DOSMid supports MIDI, MUS (as in ID Software's DOOM music format), and RMID files. However, you do need MIDI-capable hardware for it to work. DOSMid can also emulate MIDI through FM synthesis using an OPL chip (YM3812 or YMF262).



StreamPi

by TheOuterLinux
https://theouterlinux.gitlab.io

Having a hard time doing a local recording or live stream on that ancient computer, especially with software like OBS Studio? Are you also running GNU/Linux? Well, you are in luck! Using GAMBAS as a GUI front-end to FFmpeg and other tools commonly found or available to most GNU/Linux distributions, you can live stream to places like Twitch, Youtube, or whatever service that provides you with an RTMP address. And, if you are having a difficult time getting it up and running, StreamPi comes included with the latest version of the PsychOS 3.x series. A command-line option (BASH script) for those that cannot get the GAMBAS runtime environment installed is available as well. Please visit the Project section on TheOuterLinux website at https://theouterlinux.gitlab.io for details.

fli2gif
by Jeff Lawson, https://github.com/bovine/fli2gif/

FLI animations are cool and all, but what if you want to share something with modern computer users? These people are much more likely to expect an animated GIF (GIF89a) format and probably do not have a program that accepts FLI, unless they are using free and open-source multimedia players such as MPV or VLC. The fli2gif program, found in PROGRAMS\SYSTEM\BIN\fli2gif with another copy of the EXE just one directory above, can be used to convert FLI animations created by the included AnimatorAKA program to your standard, Web-friendly, animated GIF.

FLILIB
Copyright 1990 Dancing Flame, San Francisco

This is a MUCH better FLI animation player than the one included with AnimatorAKA. It is a command-line tool, but if you were to pick an FLI file as your Active File in PsychDOS, it will use FLILIB's PLAY.EXE by defualt as its player. FLILIB also includes a tool for slicing FLI files into smaller pieces, as well as one to combine FLI files.

If you would like to have FLI animations with audio, I HIGHLY recommend taking a look at a demoscene project called "Mr. Happyness" in which it plays FLI animations with VOC and MID files by using a program called MMPLAY that looks at script for timing purposes. I included a copy of it with PsychDOS within the HOME\VIDEOS\ERAGMRHA directory.

ID3TOOLS
By Matt Craven, Copyright © 2000 Hedgehog Software

The ID3TOOLS is a combination of two command-line programs, id3dir.exe and id3edit2.exe from within the PROGRAMS\SYSTEM\BIN directory. The id3dir.exe program is used to list out id3 tags (title, artist, genre, etc.) from within MP3 files within a directory and the id3edit2.exe program is used to add ID3 metadata to MP3 files.

MPlayer
http://www.mplayerhq.hu/dload.html

This is a command-line media player that supports most of the common audio and video formats like MP4, MP3, FLV, OGG, etc. However, as a video player on a DOS system, it is not the greatest in the world as it seems to only play video at about five frames a second and then the audio goes out of sync. So, if you want to watch videos on a DOS machine, for whatever reason, it would be more beneficial to use a converter like FFmpeg to lower the frame rate to five frames per

second first and then the audio will behave better.

Speaking of which, Mplayer for DOS may actual work on a newer computer. The problem then, however, is that playing audio-only files may not work. Oddly enough, if this is the case, all you need to do is convert your MP3s to MP4s. Somehow, by adding a video layer, it works again.

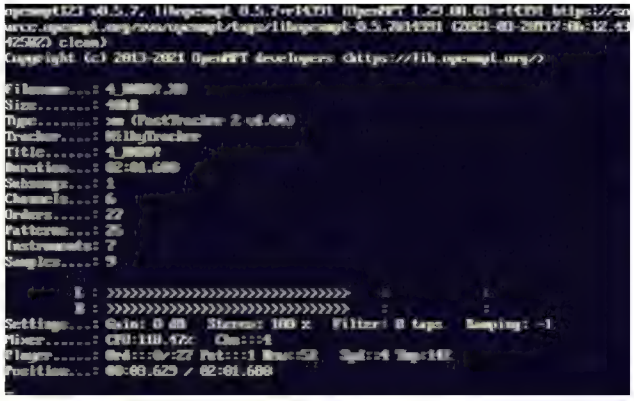
Mpxplay

MPXPLAY Audio player v1.65 for DOS and Windows by PDSoft (Attila Padar, Hungary)

This audio player supports several audio formats, including newer ones like OGG and MP3 and can play the popular modular music formats like IT, MOD, S3M, and XM. It also auto-detects what sort of sound card you have and supports most of the popular ones from back in the day. However, unlike Mplayer, this program will not work on hardware with that do not use the typical AdLib, Sound Blaster, etc. sound cards. And if you are using DOSBox and music playback "stutters," try increasing the cycles, but note that you may have to switch the count back down to what it was before for certain games and audio-related software to work correctly again.

OMPT123

Copyright (c) 2004-2021, OpenMPT contributors
Copyright (c) 1997-2003, Olivier Lapicque
All rights reserved.



This is a command-line-based, modular music player that supports most of the popular formats like IT, MOD, S3M, and XM but was also included with PsychDOS as to have a lighter option and to perhaps support a format that Mpxplay does not. And to be honest, I have not been able to test all of the known modular music formats.

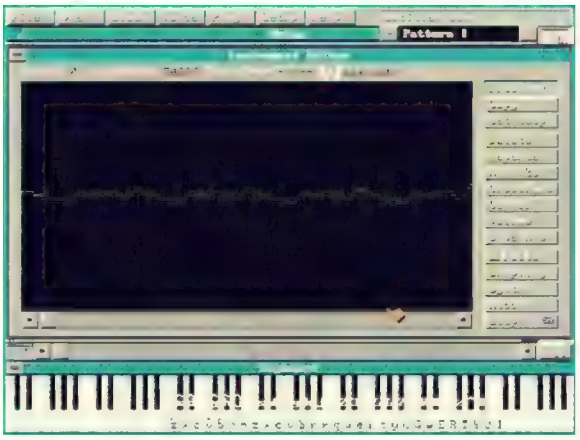
Sound Club

Copyright Bluemoon Interactive (http://www.bluemoon.ee/)

Forget your typical music tracker program. Let us be honest, unless you have grown-up using them, they are very difficult to use compared to modern ones, even when compared with those that are

still being maintained. Therefore, may I introduce to you, a music creation program that is the closest to a modern digital audio workstation (DAW) that you will probably find for DOS, "Sound Club." This wondrous program is incredibly easy to use. It saves files in its own format (*.SN), imports and exports MIDI and MOD files, and also allows you to import WAV files to use as instruments.

You can also import CMF and ROL. And, it has support for a lot of audio cards, to which the Gravis UltraSound seems to be the one it wants you to use the most. It also supports quite a few MIDI patch maps such as General, a few from Roland, a few from Korg, Proteus/1, and Acoustic Piano. MIDI interface options include None, MPU-401 compatible, Gravis UltraSound, and Sound Blaster. However, you do not need a midi keyboard to use SCLUB. You can simply use the computer's



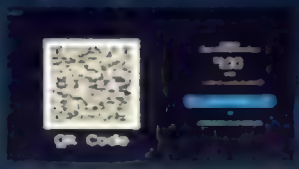
keyboard, the virtual keyboard, or click the labeled notes on the left panel before dropping notes onto the canvas, which scrolls from right to left when play as opposed to like your typical music tracker that moves upward. There is no more need for confusing text characters to represent notes, pitch bends, and so forth anymore! Yay!

But having that said, I would not go too crazy with importing WAVs

for creating more instruments as SCLUB defaults to 8-bit, 8000Hz, even though playback can be 44100Hz and I am also pretty sure that the included instruments are of a much higher quality than what you may be able to manage outside of having to use another operating system that was made before 1994. But regardless, I made sure to include extra instruments from most of TheOuterLinux's favorites that was also included with the i686 version of PsychOS, but they are 8-bit. You can import higher quality, the problem is that even if you tell the sampler that a WAV is 11025HZ, importing the saved instrument still defaults to 8000Hz. Instructions on how I imported/translated these instrument sounds can be found at PROGRAMS\MEDIA\SCLUB\TOLEXTRA\README.TXT.

TheOuterLinux

1.0.1 by TheOuterLinux



TheOuterLinux Kodi Plugin
Stay up-to-date with videos, music, art, etc. created by TheOuterLinux and other retro-maniacs. Feel free to visit the website at https://theouterlinux.gitlab.io and download a copy of PsychOS at https://psychoslinux.gitlab.io

Click here to see latest changes.

Open | Update | Auto update | Disable | Uninstall

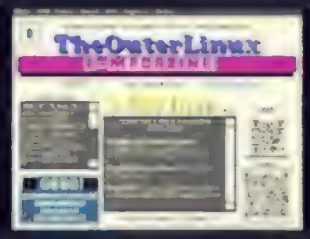
USED TO REPRESENT A BUSINESS OR AN ORGANIZATION, ANY LICENSES IN ITS NAME, LOGOS, OR OTHER ADVERTISED

FORMERLY KNOWN AS XBMC, KODI IS A WONDERFUL, FREE AND OPEN-SOURCE, MULTIMEDIA CENTER PROGRAM FOR ALL KINDS OF OPERATING SYSTEMS AND DEVICES. AND GUESS WHAT? THEOUTERLINUX ALSO HAS A KODI ADD-ON! USE IT TO EASILY STAY UP-TO-DATE WITH THEOUTERLINUX'S LATEST VIDEOS, MUSIC, ART, AND MERCH. AND AS A BONUS, THE ADD-ON ALSO INCLUDES HAND-PICKED FAVORITES TO HELP FUEL YOUR NOSTALGIA.

Videos / TheOuterLinux / My Video Collectio

Sort by: Name 1 / 10

2:12 PM



01 - TheOuterLinux Videos

- 01 - TheOuterLinux Videos
- 02 - TheOuterLinux Music
- 03 - TheOuterLinux Art
- 04 - TheOuterLinux Shop
- 05 — Etc. items listed below have no direct affiliation with TheOuterLinux. —
- Etc. Images
- Etc. Internet Radio
- Etc. Movies
- Etc. Music
- Etc. Videos

Website

Support

Options

Network

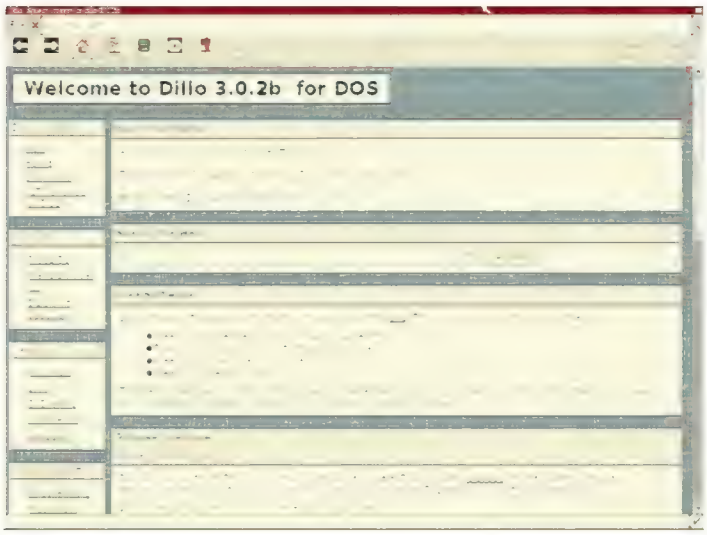
software included with PsychDOS

Before you begin any of the Network/Internet-related programs, understand that some of them will not run at all if you do not have a working Internet connection. I would love to explain to you how to do this, but the best that I can do at the moment is tell you to take a look at http://wiki.freedos.org/wiki/index.php/Networking_FreeDOS_-_mTCP and if in the future this link fails, do an Internet search for "FreeDOS mTCP setup" and see what helps.

Most of these programs were tested using FreeDOS, the mTCP tools, and a machine emulator called QEMU. Please take a look at the LOOKHERE\INTERNET.TXT file for details in regards to getting Internet working with FreeDOS on QEMU.

Dillo

by Georg Potthast with help from Benjamin Johnson via patches from Dillo-Win32



Dillo for DOS, or "DILLODOS," is an FLTK-based, graphical web browser without JavaScript support but does load some modern websites none the less, even a few https ones. And oddly enough, being a free and open-source project, Dillo for DOS is based on the 3.0.2 version for GNU/Linux and the current version for modern systems is 3.0.5 at the time of this writing, putting it only two years behind (2013 vs. 2015). It will not load embedded videos or iframes and it is best to assume HTML4 and CSS2 will work better than sites using HTML5 and CSS3. And in case anyone has visited the PsychOS Project or TheOuterLinux websites, I always at the very least check them against the GNU/Linux version of Dillo.

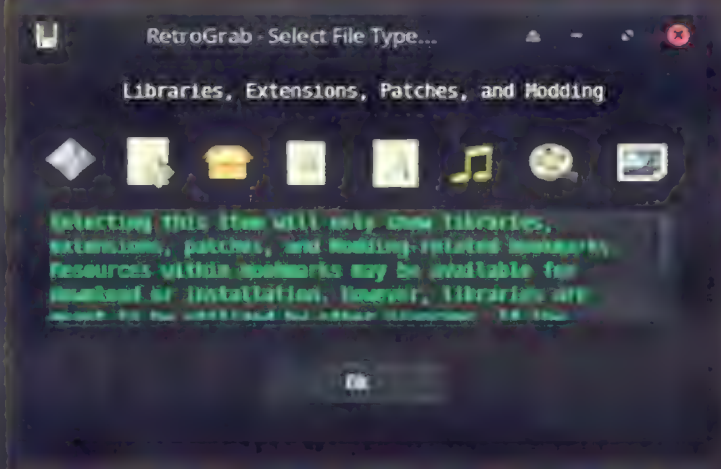
RETROGRAB

BY THEOUTERLINUX
HTTPS://THEOUTERLINUX.GITLAB.IO

USE RETROGRAB TO GRAB ALL SORTS OF OLD-SCHOOL COOL SOFTWARE WITH CATEGORIES LIKE:

- ACCESSORIES
- DESKTOP
- DEVELOPMENT
- EDUCATION
- GAMES
- GRAPHICS
- INTERNET
- MULTIMEDIA
- OFFICE
- UTILITIES

AND AS LONG THE SOFTWARE HAS A SCRIPTABLE EMULATOR FOR A GNU/LINUX SYSTEM, USE THE "MAKE A REQUEST" OPTION TO POSSIBLY HELP THE MAINTAINERS ADD MORE!

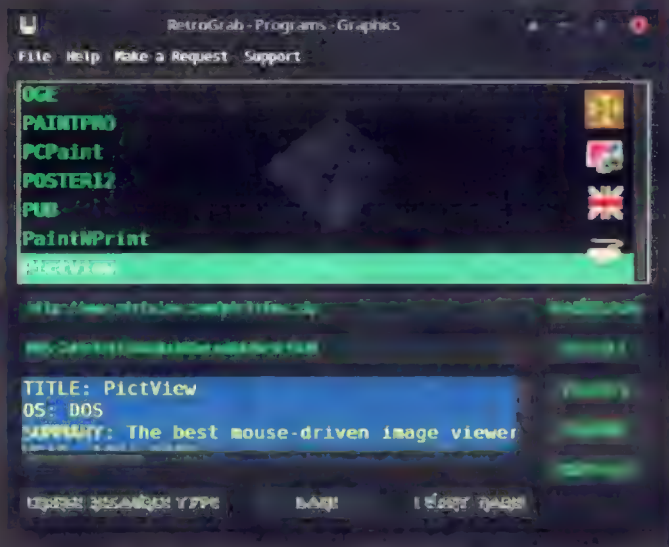


NOT IN NEED OF SOFTWARE? WHAT ABOUT SCRIPTS? LIBRARIES? MODS? DOCUMENTATION? FONTS? AUDIO/MUSIC? VIDEOS? IMAGES? RETROGRAB HAS YOU COVERED WITH THOSE AS WELL!

AND NOT ONLY CAN YOU *GRAB*, BUT MOST ITEMS ALSO HAVE THE ABILITY TO BE INSTALLED AND ACCESSED FROM A GNU/LINUX SYSTEM'S PROGRAMS MENU.

AND JUST IN CASE THE SUMMARY BELOW THE LIST IS NOT ENOUGH TO CONVINCE YOU TO DOWNLOAD OR INSTALL A PARTICULAR RESOURCE, IF AVAILABLE, THERE ARE ALSO BUTTONS TO HELP YOU VISIT THE WEBSITE OR PERHAPS PREVIEW A VIDEO.

AND AFTER TRYING THE SOFTWARE, IF AVAILABLE, FEEL FREE TO USE THE "SUPPORT" BUTTON TO GIVE THE DEVELOPER(S) OF THE SELECTED SOFTWARE A HAND :)



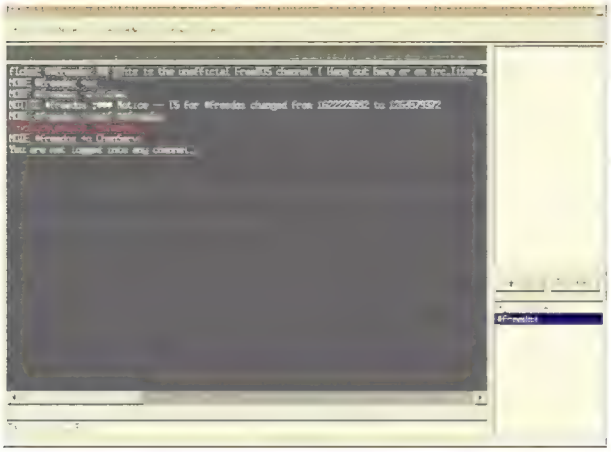
RETROGRAB IS CURRENTLY ONLY OFFICIALLY SUPPORTED ON THE GNU/LINUX DISTRIBUTION "PSYCHOS" FOR I686 COMPUTERS. PLEASE KEEP THIS IN MIND IF COPYING TO A DIFFERENT PLATFORM. MAKE SURE TO READ THE LICENSE AND REQUIREMENTS.

SEE VIDEO AT HTTPS://THEOUTERLINUX.GITLAB.IO/PUBLIC/VIDEOS/DESKTOP/RETROGRAB.HTML

DONTPANIC
by TheOuterLinux

I am a big fan of a BBS (Bulletin Board System) client called "NetRunner" that you can find a copy of for modern systems at http://mysticbbs.com/downloads.html. However, there is nothing like it for DOS that I have been able to find that is also both redistributable and pleasing to the eyes. So, I created my own BBS bookmarking-like program using Visual Basic for DOS 1.0 (VBDOS). If you are using it with PsychDOS, it should be setup and ready to go for you; otherwise, you will have to click the Edit button and do a bit of configuring.

FlChat
December 2013 Georg Potthast



This is an FLTK-based, graphical IRC (Internet Relay Chat) client. If you are not familiar with what that is, think of it as like the old-school chat room days in which you have an IRC server and then a channel to join and then just start talking with whomever is there. And yes, this technology is still very much around; many free and open-source projects, especially the ones regarding GNU/Linux, still use IRC for support. Matter of fact, you can even use IRC clients to chat on Twitch, or at least at the time of this writing.

FlMail
based on an old program by Jean-Marc Lienher and ported to DOS and extended by Georg Potthast

This is an FLTK-based, graphical E-Mail client. However, because of the extra "security," your E-Mail service of choice may not work, nor do I honestly have one to suggest for you. However, worse case scenario, as long as you can supply a POP (Post Office Protocol) and SMTP (Simple Mail Transfer Protocol) address to a service that has not changed much since around 2013, it may work just fine. There is a FlMail.pdf document within PsychDOS's PROGRAMS\

NETWORK\FLMAIL\doc directory with all sorts of explanations and even supplies examples for services like AOL (bought by Verizon in 2015), GMX, Strato, Gmail, Outlook, and Yahoo. You can also send attachments and FlMail has a built-in address book for keeping up with contacts.

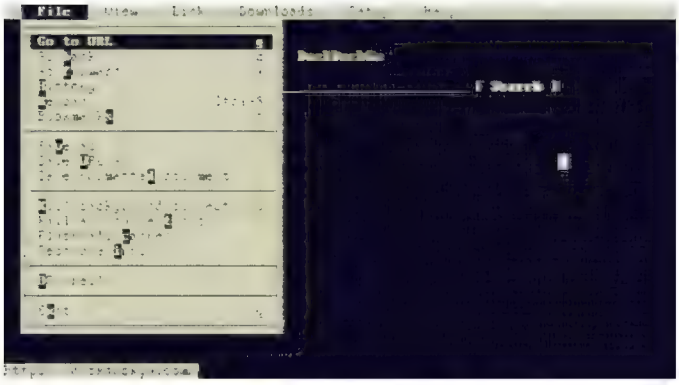
Gopherus

v1.2 Copyright © 2013-2020 Mateusz Viste

Gopherus is a Gopher client for browsing Gopher sites (gopher://) with bookmarking capability. The main benefit of these sorts of places it that content displayed are mostly just text and links, making it ideal for people that just want to look-up some information, maybe download a document, and then move on with their day. Most modern websites tend to load several megabytes worth of eye-candy and JavaScripts just to do the same thing and then demand that your web browser support SSL (https), which is sort of an issue for older operating systems like DOS. Gopher does not have this problem and there are still quite a few Gopher sites out there and many members of free and open-source communities are starting to look heavily into alternatives to standard web browsing because of the web bloat and constant data collection.

Links

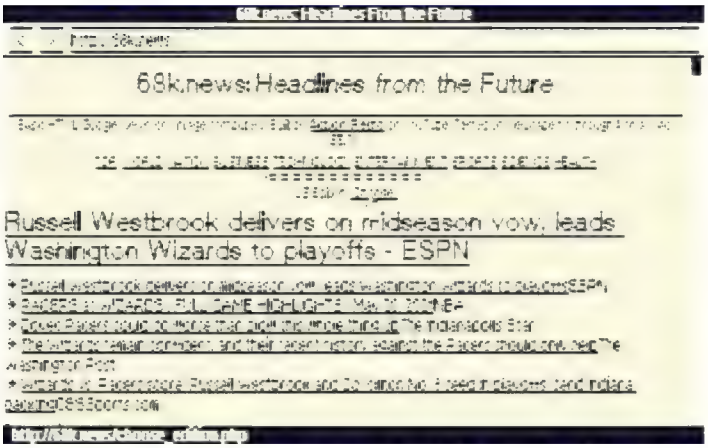
by Mikulas Patocka



Links is a text-based web browser with actual modern SSL support (OpenSSL 1.0.2s; 28 May 2019) and the DOS version appears to be very well maintained. For all intensive purposes, it pretty much does everything most web browsers do except without JavaScript or add-on support; however, you can tell Links how to handle various file formats such as viewing images, audio, video, etc. and how to handle things like E-Mail, Telnet, and TN3270 emulation, to which PsychDOS does include clients for. Unfortunately, I was not able to find anything for the MMS or Magnet options.

MicroWeb

https://github.com/jhhoward/MicroWeb

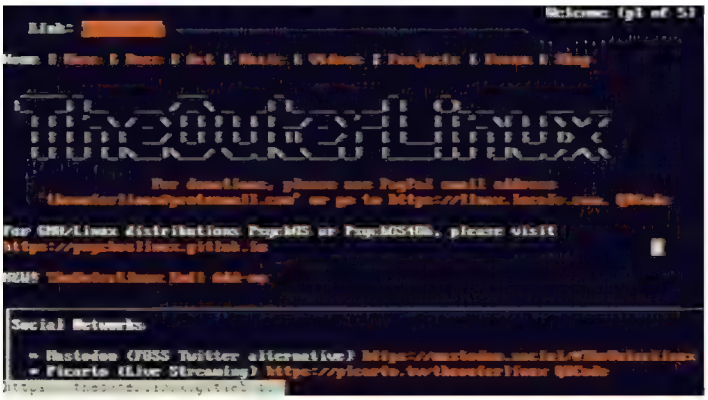


I'm lazy; this is a screenshot from the MicroWeb project site.

Though listed within the Network category's "CustOm" item (GMENU), this mini graphical web browser is included for Intel 8088 or compatible CPUs with CGA or better graphics cards. In other words, if you are having trouble running Links or Dillo for DOS, you may have better luck with MicroWeb; however, it currently (at the time of this writing) only supports plain http websites or local *.HTM files and is somewhat limited in regards to tags and does not render images.

More Software

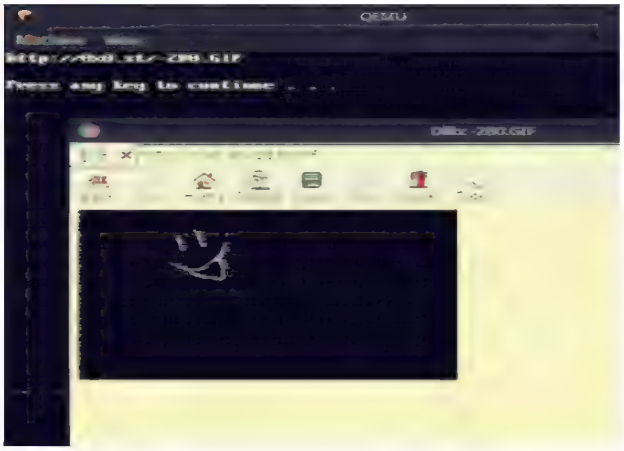
See Recommended Software section on https://theouterlinux.gitlab.io



Within the PsychDOS Programs menu, there is an item labeled "More Software." Selecting this menu item will use whatever the default web browser is set to -- which is Links by default, to go to TheOuterLinux website homepage at https://theouterlinux.gitlab.io. From there, you can easily find 3rd-party links to recommended software for DOS and various other systems. You may also want to take a look at the Docs page for various howtos and 3rd-party links to manuals and computer magazines. If the links stop working and you have an alternative, please send an E-Mail so I can make corrections.

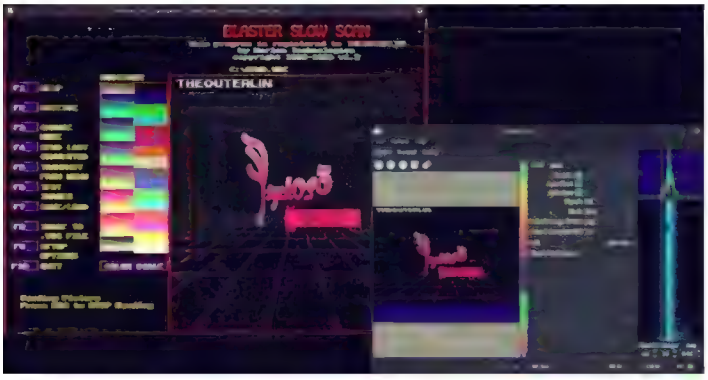
Pastebin Feature
for PsychDOS by TheOuterLinux

This feature was previously mentioned in the PsychDOS Desktop Environment section, but I just wanted to give a little bit of proof that it works...



Slow Scan TV
by Harlan Technologies

This is a shareware program for intercepting images transmitted by radio as *.PCX files and can convert *.PCX images to *.VOC format for transmission. And yes, people still do this and if using HAM radio, you only need a license in most countries to transmit but not to receive; however, you could just do some



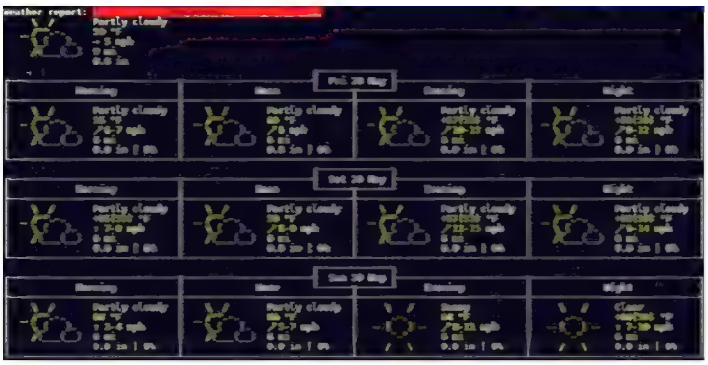
short-distance testing with walkie-talkies (two-way radios).

But be careful, if you do manage to figure out how to get this program working, most of the transmitted images "flying through the ether" are of the adult variety from what usually looks like the early 2000s. Doing HAM related things with the aid of a W95/98 machine is cool, but who ever is broadcasting this stuff please either change it to something more family-friendly or at the very least, update your "collection."

And if you do want to test Slow Scan TV on a DOS system (or DOSBox) but want to have a modern system interpret the signals, I recommend QSSTV, which was available from my GNU/Linux system's package manager. If using DOSBox on GNU/Linux, you can set pavucontrol (PulseAudio volume control), aka what is probably your volume mixer, to have the recording source for QSSTV to be DOSBox.

Weather

uses wttr.in by Igor Chubin, https://github.com/chubin/wttr.in



Running this menu item from PsychDOS just runs a batch script that uses cURL to talk to wttr.in for grabbing your local weather based on your public IP address and then brings back an image file for viewing with PictView. On a more modern system, such as GNU/Linux, all you need to do is open a terminal and run "curl wttr.in" to get weather information printed in ASCII characters on the screen; however, this does not print well on DOS and so I have it using an image file instead.

WGET

Copyright (C) 1995, 1996, 1997, 1998, 2000, 2001, 2002 Free Software Foundation, Inc.

If you know the exact URL of a file from a plain http website, you can use WGET.EXE from anywhere -- as long as PsychDOS was started correctly, to download that file to the current directory. curl.exe and htget.exe from PROGRAMS\SYSTEM\BIN can be used in a similar way, with the right command-line arguments applied.

Please do not try to use WGET, curl, or htget to obtain files from SSL (https) websites as it will not work, or at least with the current versions as far as I have been able to test.

Office

software included with PsychDOS

Cash Register
Copyright by Dale Harris, 2001 - 2011, Version 7.1

Would it not be cool if you could manage a store using an old DOS computer? Using "Cash Register," basically you now have that power, though you may get a few funny looks at your store if the clerk is using a CRT (cathode-ray tube) monitor.

CATDOC
by Victor Wagner

This is a program in which reads Microsoft *.DOC (MS-Word) binaries and then prints them as readable plain-text. However, this program also included copies of CATPPT and XLS2CSV for doing the same thing but for older PowerPoint and Excel binaries. I also made sure to include batch scripts for these programs for easier use. You can find these programs within the PROGRAMS\SYSTEM\BIN directory so as to be able to run from anywhere, assuming you started PsychDOS properly. However, like most converters for proprietary formats, expect issues every now and then.

Check
Copyright © 1982-1992 Microsoft Corporation

Manage your checks with "Check," a Visual Basic for DOS 1.0 example program supplied by Microsoft, to which is free to use, modify, reproduce, and distribute as long as people understand that there is no warranty, obligations, or liability. I did make a few edits but only to the color scheme and default file extensions because

using "TMP" for something you plan on keeping is a bit odd.

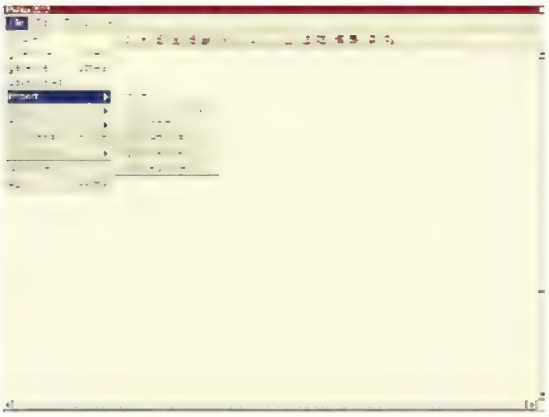
DirTel
version 3.28, Internet e-mail: franganillo@excite.com

This is an address book program that supports search, printing on paper, labels, or envelopes, and can convert data to formats like DT, RTF, HTML, and ASCII delimited text.

EDITV
by J.R. Ferguson, Amsterdam, The Netherlands

This is plain-text editor with a few more features than what you would normally find on most, as well a few that are missing from most. Matter of fact, this is probably more fitting to be used as a code editor for small BASIC scripts (64K max file size) as one of the primary features that makes it interesting is the ability to run programs against the currently opened file. If you already have a copy of this program on your DOS system and it looks different from the screenshot, that is because I edited the color scheme to match more like the one I have for the DOS Navigator file manager.

FlWriter
developed by Jean-Mark Lienher in 2002; ported to DOS in 2012 by Georg Potthast



If you do not have a much newer computer or a really fast DOSBox setup, you may not want to bother. However, I did include it because it is the closet thing to a modern word processor that I could legally include with PsychDOS. It has features that you would find with most Rich Text editors (*.RTF) but it ultimately saves documents in

HTML format to then be converted to other formats like PDF. There are features such as importing PDF, Microsoft *.DOC, OpenOffice (and perhaps LibreOffice) *.ODT, and others, but that is sort of a hit-or-miss kind of thing. Basically what I am saying is that this program is either kind of "buggy" or too "beefy" to be used with a constant smile on your face, or at least from my experience; yours may be different and it wont hurt to try it at least once. Maybe you will figure out some sort of "trick" to it that I could not.

FlWriter Extras

TTH by Ian Hutchinson
WP2X by Raymond Richardson; current maintainer Michael Richardson
TTH and WP2X was ported to DOS by Roberto Perotti Iw2evk
wvWare was compiled for DOS by Georg Potthast

PsychDOS also includes some tools ment to be used along with FlWriter. One of these tools is called TTH for converting LaTeX files to html. You can also use the WP2X program for converting WordPerfect 5.0 files to TeX, LaTeX, troff, GML, and HTML. The wvWare program can be used to convert Microsoft *.DOC binaries to formats like HTML, plain-text, LaTeX, DocBook DTD, WML, and AbiWord. These tools are not listed in PsychDOS's Programs menu but can be found within the PROGRAMS\OFFICE\FLW12con directory.

Ghostscript

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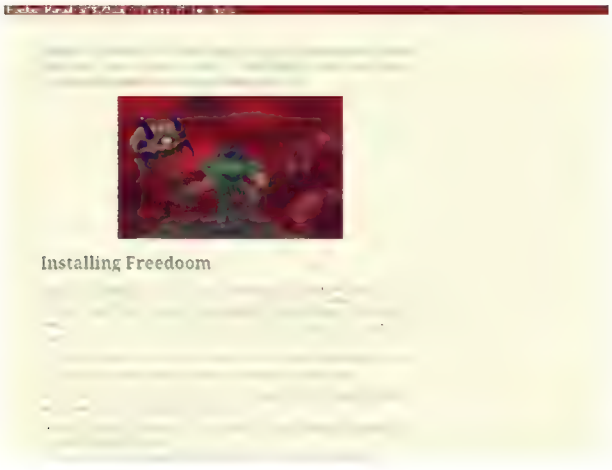
This is a program for opening PostScript (*.PS) files. It can be opened by itself but doing so creates this pure white colored shell that is not easy to use. So, for the purposes of using with PsychDOS to view PostScript files and not just as a converter, you need to select a PS file as your Active File, set the Workbench to "Globally", and then use the Ghostscript item from the Programs menu.

less
Copyright © 1984-2009 Mark Nudelman

Some of you that are familiar with less are thinking why list this as an office program? Because less can be more. Basically, the less.exe program behaves almost identically to the MORE.EXE but can handle larger text files because of its CWSDPMI requirement. This is also the default text-viewer for PsychDOS's Workbench.

MuPDF



This is a PDF (Portable Document Format) viewer. MuPDF supports most PDFs as long as you do not try to use complex ones that have embedded audio/video or password protection. It does appear to support anchors, aka click a link to then take you to another part of the document, but please remember that this is a DOS program and therefore opening large PDFs will either take forever or not load at all.

Nano
version 0.8.8 by Chris Allegretta

This is the same "nano" program that comes with most GNU/Linux systems made after the mid-2000s. It is a free and open-source Pico clone, which was a text-editor for an E-Mail client called "Pine" that is/was used by Unix-based operating systems.

However, this version of NANO has not been updated since March 18, 2000 and the spellchecking features do not seem to work, even if you specify something like the ispell

program. Worse case, you can write your document and then use PsychDOS's "Spellcheck" option from the Programs menu after selecting the document as an Active File.

PDF[2,to]?

Xpdf software and documentation are copyright © 1996-2011 Glyph & Cog, LLC.

So as to be able to convert files from anywhere -- because of PsychDOS's RUNME.BAT magic, you can use tools for converting PDF files to various formats like plain text and PostScript, as well as extract embedded files and images using programs like pdftach.exe, pdfimg.exe, pdftops.exe, and pdftotxt.exe. However, please be aware that these tools are not going to always work, especially on newer, more complicated PDF files.

SLED

Copyright © 1987 by Sam Wilmott

SLED and SLHED are two very small (around 16K) sized, text-editors. I included SLED as a Programs menu item just in case the computer PsychDOS is running on is just too old to properly use more than the typical 640K RAM but still may need to type a fairly large text file, to which included programs like EDIT and EDITV have somewhat small size limits compared to NANO, but NANO requires CWSDMPI (extra RAM) to use. Better safe than sorry.

SLSC

a port of the classic Unix spreadsheet sc which uses the S-Lang library by John E. Davis

This is a command-line spreadsheet program that is essentially a fork of sc, which is still available for modern systems like GNU/Linux in most of the default repositories. The cool thing about the SLSC program is that it saves files in the *.SC format, which can then be opened by the more up-to-date version of sc and Gnumeric, which is often

included with lightweight GNU/Linux distributions like Puppy Linux. But just to be safe, do not assume that saving SC files made by SLSC with newer software will still work with SLSC as it appears to not have been updated since around 1994, even though I included a copy of the current manpage for sc just in case.

VIM

version 7.3, main author listed is Bram Moolenaar

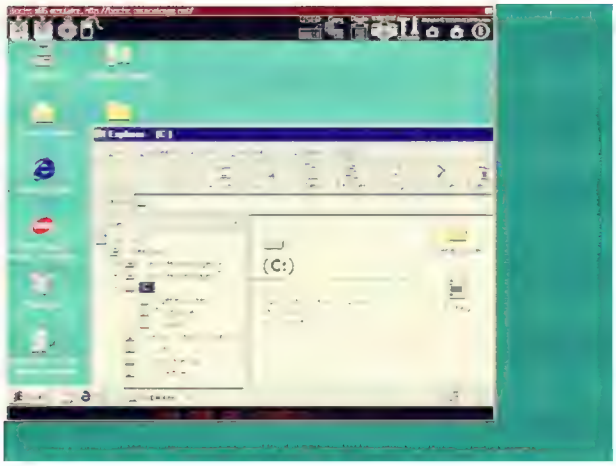
Ehhhh.... Some people like it, many others hate it. However, to be fare, it is a very feature-rich text editor none the less, even if I personally do not understand why anyone would bother. So, I am including it anyway since there are those out there that will not use anything that does not include VI or VIM by default. Please enjoy your 24MB text editor for DOS that the average person will never have the patience to figure out how to use. If you are new to VIM and do find yourself in a situation in which you just want to quit the darn thing, just press the Esc key a bunch of times, followed by ":" and then "q" to quit.

SYSTEM

related software included with PsychDOS

Bochs

16th December 2013 Georg Potthast



I am a bit lazy; this is the same screenshot found in BOCHDOS's directory.

Bochs is an x86 PC emulator for running systems like Windows, GNU/Linux, DOS, etc.; however, because this is the DOS version, regardless of how new your computer is, be very careful with your imagination. As far as testing goes, I have been able to get a few much older, command-line oriented, live versions of GNU/Linux and FreeDOS running, though incredibly slow. I HIGHLY recommend that you study the PROGRAMS\SYSTEM\BOCHSDOS\BOCHSRC file if planning to use.

GSETUP

by Micro Consulting Associates

You can use this program on older computers to modify CMOS RAM parameters, perform diagnostics, and "park" your hard disk(s) before moving your computer. However, running on a newer computer runs the risk of at least resetting your date/time settings but oddly enough, you still may be able to use GSETUP to fix the issue. Worse case scenario, reboot the computer, look for BIOS-related keyboard shortcut messages, and then use the normal way of editing BIOS settings.

And now a few xkcd comics...

https://xkcd.com

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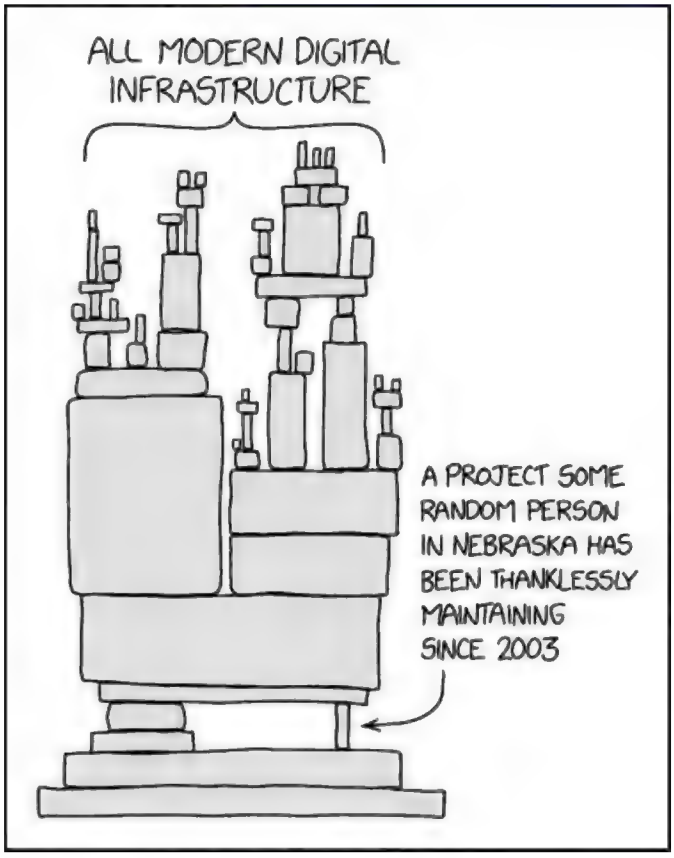
Dependency



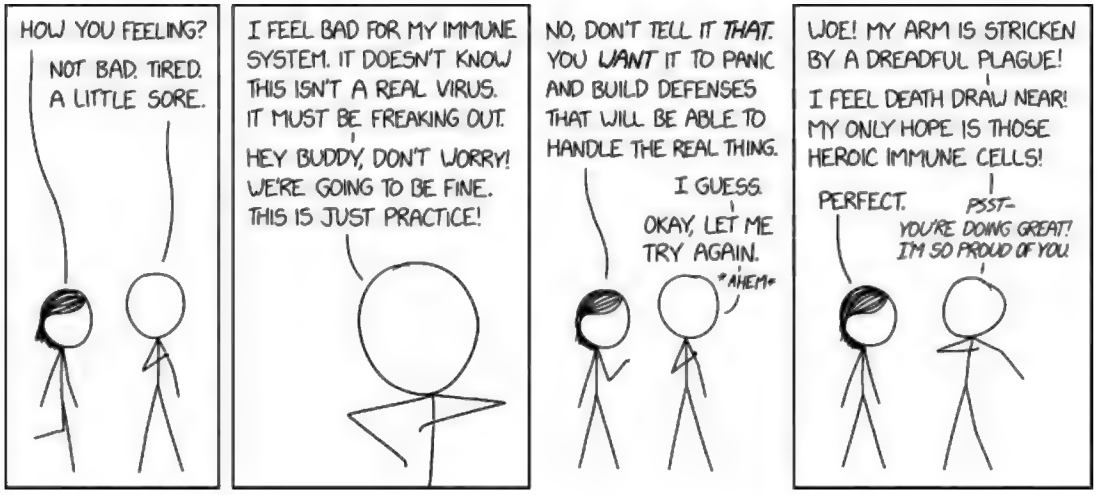
"Dependency" Alternative text:

Someday ImageMagic will finally break for good and we'll have a long period of scrambling as we try to reassemble civilization from the rubble.

"Immune Response" Alternative text:

I don't care whether you win or lose, as long as you have-- ...okay, sorry, I'm being reminded I very much care whether you win or lose. I need you to win, that's very important.

Immune Response



ye ol colouring page

Fun with encoding

of a different kind...

Let's face it, your are only human and therefore not capable of handling large amounts of calculations and memorization to keep up with modern-day encryption methods. But let's say you do not have a computer but still need to keep your conversations with friends a secret. The following is an interesting method that should do the trick that is a bit more hard to crack than your typical letter-to-number cipher but still fairly easy to do.

First, come up with a unique single-word in which all of the letters within that word are different. For example, you can use "pasword" but you cannot use "password" because the letter "s" is being used twice. I would also like to point out that the longer the word, the better.

Key 1 = PASWORD

Next, come up with a random number. The longer and more random, the better; however, do not use too long of a number as we will be adding this number to every single word in our message. Five digits should be plenty.

Key 2 = 23943

And then finally, do the following...

01	02	03	04	05	06	07
P	A	S	W	O	R	D

08	09	10	11	12	13	14
B	C	E	F	G	H	I

15	16	17	18	19	20	21
J	K	L	M	N	Q	T

22	23	24	25	26
U	V	X	Y	Z

Notice how we wrote PASWORD first and then all of the other letters of the alphabet, skipping the ones that are already used in the first row (Key 1)?

Next, we need to come up with something to send to our friends and also encode the message. For example,

> Come to the park after dark.

Using the created index above, we can translate the message to numbers like so...

```
09 05 18 10   21 05   21 13 10    01 02 06 16    02 11 21 10 06
 C  O  M  E   T  O   T  H  E    P  A  R  K    A  F  T  E  R

07 02 06 16
 D  A  R  K
```

However, we are not done yet. Let's add our Key 2 number (23943) to each word...

COME: 09511810 + 23943 = 09535753

TO: 2105 + 23943 = 26048

THE: 211310 + 23943 = 235253

```
PARK: 01020616 + 23943 = 01044559 <----+
                                       |
AFTER: 0211211006 + 23943 = 0211234949 |
                                       |
DARK: 07020616 + 23943 = 07044559 <-- Notice how PARK and DARK only
                                      differ by one letter but are still
                                      very different when encoded?
```

The finished encoded message:

09535753 26048 235253 01044559 0211234949 07044559

Now to decode, all you have to do is subtract 23945 from each "chunk" and then translate every two digits by creating your own chart using the word PASWORD as the first set of letters before numbering. Decoding in this case is just like the encoding part but backwards.

Your turn!

A friend has sent you a message in response to meeting them at the park but believes that they are being monitored and has decided to change the keys to something else. What does the secret message say?

Key 1 = CHEATOS

Key 2 = 8675309

Encoded message = 8675321 8906824 0828797020 71712686716

See answer on next page...

The answer: I WILL BRING SNACKS

Explanation:

8675321 8906824 0828797020 71712686716

(Encoded word — Key 2)...

8675321 — 8675309 = 12
8906824 — 8675309 = 231515
0828797020 — 8675309 = 0820121711
71712686716 — 8675309 = 071704011407

01	02	03	04	05	06	07
C	H	E	A	T	O	S

08	09	10	11	12	13	14
B	D	F	G	I	J	K

15	16	17	18	19	20	21
L	M	N	P	Q	R	U

22	23	24	25	26
V	W	X	Y	Z

And all letters have two digits, so...

12 = I
23,15,15 = WILL
08,20,12,17 = BRING
07,17,04,01,14,07 = SNACKS